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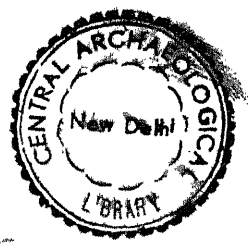
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BY

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FIRMA K. L. MUKHOPADHYAY

CALCUTTA : 1961

2nd Edition, 1961
© FIRMA K. L. MUKHOPADHYAY, Publishers,
6/1A, Banchharam Akrur Lane,
Calcutta-12.

1st Edition 1942

2nd Revised edition 1961

CENTRAL ARCHAEOLOGICAL
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Printed by Jogesh Chandra Sarkhel at the
Calcutta Oriental Press Private Limited.
9, Panchanan Ghose Lane, Calcutta-9.

VOLUME I

RURAL ECONOMY
INDUSTRIAL ECONOMY

While the book comes through the second edition I gratefully remember my debts to Professors H. C. Raychaudhuri and B. M. Barua who are no more with us. I am also thankful to Firma K. L. Mukhopadhyay who have undertaken the publication and to Shri Dipak Sen, M.A.,LL.B., who has compiled the index with assiduous labour.

Madhyamgram
May 1961.

Atindranath Bose

ABBREVIATIONS

An.	Anguttaranikāya
Āpast.	Āpastamba
Arr.	Arrian's Indica
Arr. Anab.	Arrian's Anabasis
Arth.	Arthaśāstra of Kauṭilya
Av.	Atharvaveda
Baudh.	Baudhāyana
Ch. Dhp.	Chinese Dhammapada (Beal)
Cp.	Cariyapiṭaka
Cv.	Cullavagga
Dhp.	Dhammapada
DhpA.	Dhammapada Atthakathā
Diod.	Diodorus
Dn.	Dīghanikāya
E. I.	Epigraphia Indica
Gaut.	Gautama
Jāt.	Jātaka
J. S.	Jaina Sutras (Jacobi)
Kāt.	Kātyāyana
Mah.	Mahāvastu
Mbh.	Mahābhārata
Mil.	Milindapañho
Mn.	Majjhimanikāya
Mv.	Mahāvagga
Nār.	Nārada
Peri.	Periplus of the Erythrean Sea
Ptol.	Ptolemy's Geography
Pug.	Puggalapannatti
Pv.	Petavatthu
PvA.	Petavatthu Atthakathā
Rām.	Rāmāyaṇa
Ṛv.	Ṛgveda
Sn.	Samyuttanikāya
Śp.	Śāntiparva Mahābhārata
Str.	Strabo's Geography
Śuk.	Śukranīti
Sut.	Suttanipāta
Therag.	Theragāthā
Therig.	Therigāthā
Ud.	Udāna
Vāś.	Vāśiṣṭha
Vbh.	Vibhanga
VbhA.	Vibhanga Atthakathā
Vin.	Vinaya
Viṣ.	Viṣṇu
Vṛ.	Vṛhaspati
Vv.	Vimānavatthu
VvA.	Vimānavatthu Atthakathā
Yāj.	Yājñavalkya

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" " VII, " Viṣṇu.

" " XIV, ii, " Vāśiṣṭha & Baudhāyana.

" " XXV, " Manu

" " XXXIII " Nārada & Vṛhaspati.

" " XXII, XLV, Jaina Sutras.

" " XIII, XVII, XX, Vinaya Texts.

" " X, the Dhammapada & the Suttanipāta.

" " XXXV, XXXVI, Questions of Milinda.

Beal: Chinese Dhammapada.

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INTRODUCTION

Though sufficient work has been done in the field of Indology to dispel the antiquated notion that ancient Indians wandered only in spiritual quest and knew no economic enterprise worth the name, the rebuilding of a consistent and comprehensive economic history of India still awaits completion. A cursory chapter by Rhys Davids in his Buddhist India, Mrs. Rhys Davids' erudite collections on "Early Economic Conditions in Northern India" in J. R. A. S. 1901, Richard Fick's masterly classic "Die sociale Gliederung im Nordöstlichen Indien zu Buddhas Zeit" written a social rather than economic standpoint, were till lately the sole conspicuous works in the field; and even these were written exclusively on Buddhist sources. The authors moreover antedated their materials, as revealed by modern research. The plausible effort of N. C. Banerji stops with the first volume of the "Economic Life and Progress in ancient India" ending before the period of the Maurya Empire. This volume, which is a collection of valuable data, together with J. N. Samaddar's small series of Ashutosh Lectures on Economic Condition of Ancient India just offer the starting point for a more systematic and thorough treatment. The chief drawback of the latter is that it makes no endeavour to collate the evidences gathered from different source materials and is at best a good analysis of them. There are excellent monographs like Ghoshal's "Hindu Revenue System" (his "Agrarian System in Ancient India" is only a summary of his Revenue System with a short lecture added on the legal ownership of land) and Mukerji's "Indian Shipping". But such treatises again are limited in their scope and the former does not fully exploit the Pali literature; nor has any appreciable work as yet been done to bring the prodigious labours of

Maine and Baden Powell into line with modern discoveries on the agrarian system.

The purpose of this thesis is to attempt, not too succinctly or piecemeal, an economic survey of Northern India between the days of Buddha and Kaniska's successors, i.e., *cir.* 600 B.C.—200 A.D. Between the supremacy of Magadha under Bimbisāra and the decline of the Kuṣāṇa Empire after Vāsudeva I, the political history of Northern India has been reconstructed into a workable framework intervening two big gaps still unconquered by labours of research. The economic development of this age, summarily but not too plausibly called the Buddhist age, is full of interest and organised effort and may be taken up with some confidence. The Jātakas and the Pali canons, after the period of their development has been ascertained, though within widely stretched limits, require to be studied with reference to the copious contemporary literature that have come down to us in the shape of the epics, legal codes, commentaries, inscriptions, notes of foreigners, etc. This is a desideratum in the field of economic history of ancient India.

India produced no Thucydides or Tacitus to write her history. But she had a rich crop of canonists and theorists to prescribe divine law and write sacred texts. The law books and the didactic portions of the Epics take up law and morals for the guidance of public and private life only from the standpoint of theorising Brāhmaṇism, often in the face of facts, to establish the 'divine' rule. This is illustrated in the priestly theory of caste which never existed in contemporary society in the form of four *varṇas*[1] and strictly demarcated mixed and sub-castes on functional basis with precise rules on marriage, interdining, ceremonial pollution and

1 Such opinon was held by Kern, Oldenburg and others.

social sanction as represented in the Brāhmaṇical and theoretical portions of Buddhist books.[1] The Brāhmaṇas are frequently seen to drive the plough, feed themselves on pork, fowl and beef, living on usury or fighting even better than the so-called Kṣatriyas. The house-holder, instead of repairing to the forest at the age of fifty, is more often seen to cultivate the two middle *vargas*,—*artha* and *kāma*. A society which observes the priestly warning that women are gates of hell cannot produce women like Ubhaya-bhāratī and Maitreyī. The king who is called Ṣaḍbhāgin —as the taker of only 1/6 of agricultural produce as taxes— is frequently seen ruining the cultivators with fleecing demands. Again the same king who is extolled as a veritable god on earth is seen to die or leave his kingdom before the fury of his oppressed folk.

These social phenomena are admitted in the Brāhmaṇical sacred books only as deviations from the common law. In fact India's history is not to be traced in these canonical works nor in the panegyrics of *praśastikāras* maintained by kings to sing their praise. Even foreign visitors like Megasthenes, Fahien and Hien Tsang wrote under the influence of these religious motives or of king's court. The pulsating life of the teeming millions that extended from

1 See Senart—Les Castes Dans L' inde, pp. 139-40; "La doctrine officiale n'admet que quatre castes; la réalité fait eclater ce cadre trop étroit: elle en montre un nombre infini—Mais la théorie par plus d'un indice, par les contradictions méme on elle s'engage, constate et avoue que de vieille date, les castes été bien autrement nombreuses que'lle ne parait d'abord le suposer. J'ai dit combien il est douteux qu'une caste de Kṣatriyas et de Vaicyas ait jamais réellement existe. On sent de reste combien des catégories si vastes sont peu compatibles avec les régles méme avec cet exclusivisme jaloux, cette organisation corporative et autonome qui caractérisent la caste vivante. P. 138. See also Fick: Die Sociale Gliederung, pp. 3-6.

the king's palace to the ascetic's *āśrama* is not caught in court or divine literature. The material for peoples' life is to be sought in peoples' literature. Fortunately such popular literature is not so wanting for us as genealogical and chronological tables and diplomatic and military records. Of course even this literature could not completely escape the tamperings of compilers with idealistic motives.

The remarkable difference between the canonical literature of Brāhmaṇas and that of Buddhists is that the former's vehicle was a savant's language, the latter's vehicle was a more widely spoken language. Buddhist philosophy and practice exhibit some advance from Brāhmaṇism towards equality and democracy in their monastic organisation and theories of state. This explains why the Pali works let us into popular life more than the Sanskrit do. They are full of parables drawn from life to explain and drive home a sermon. The social life of commoners in the countryside with their sorrows and pleasures, their feuds and fellowships expresses itself in colourful stories,—in rhymes and verses. These unmotivated, spontaneous effusions reflect clearly the beliefs, manners, customs and means of livelihood of the masses. The stories of the Jātakas are such folk-tales accumulated through centuries from the lips of the commoners. They are presented by the compiler in a casual, parenthetic manner only with the interpolation of the Bodhisatta motive. Sometimes this motive does not colour the incidents which have absolutely no use for pointing a moral. The current of popular literature sometimes shrinks and dries up. It shows itself again in works like the Pañcatantra, Hitopadeśa, Kathāsaritsāgara, etc. Even the Purāṇas and the great Epics sometimes afford glimpses into raw human life beneath all the poetic artistry and idealisation.

Buddhist Literature

The Buddhist works, the canon with the voluminous commentaries of Buddhaghosa and Dhammapāla and the mass of the Jātaka stories are not only the widest source, they give the truest picture from life. Where the Buddhist writers do not go for theorising they observe an objective attitude on the material world and give genuine data on social and economic activities.

The view upheld by Bühler, Rhys Davids and Fick and followed even by recent scholars[1] that the Buddhist texts and the Jātakas represent society only prior to the fourth century B.C. is not tenable now. References in the Jātakas to Jambudipa, Suvaṇṇabhūmi, Andhapura and Tambapaṇṇi, display a larger geographical horizon and nomenclature than any pre-Maurya literature. The Jātakas know the various forms of slavery enumerated in the Arthaśāstra and the legal literature which the Vinaya Piṭaka, believed to be among the older portions of the Pali canon, does not[2]. The Jātakas reflect the syncretising process between Brāhmaṇic and Buddhist cults except in the matter of animal sacrifice. Buddha's homily of equality of castes in the Assalāyana Sutta is in pronounced contrast with later texts where the

1 R. C. Majumdar: Corporate life in Ancient India, Introduction. Ghoshal: Agrarian System in Ancient India, p. 89.

2 The Jātakas are familiar with slaves (1) reduced by punishment (I. 110), (2) purchased (III. 343), (3) 'born in the house' (I. 452), (4) captured in raids (IV. 220), (5) by gift (VI. 546f), (6) voluntary enslavement (VI. 87), (7) by fear (VI. 285). For later classification of slaves, *cf.* Arthaśāstra, III. 13, and Manu, XVIII. 415. The Vinaya distinguishes slaves only as follows: (1) born slaves, (2) purchased with money, (3) captured in raids: antojāto dhanakkito karamarānito (Bikkhunivibhanga, Saṃghādisesa, 1. 2. 1.). Ignorance of the 'daṇḍadāsa' is particularly significant.

isolation of the despised Caṇḍālas and Pukkusas even smack of Manu.

The Tipiṭaka or Pali canon is said to be a compilation of Buddha's sayings as preserved by oral transmission and according to tradition was brought to Ceylon by Mahinda and first committed to writing under the Ceylonese king Vaṭṭagāmani in the first century B. C. Between the third and the first centuries B. C. the canon underwent great transformations. This accounts for numerous contradictions, repetitions and juxtapositions of early and late traditions within the canon.

Below is given an analysis of the Tipiṭaka with reference to the birth period of its component parts as established by the latest research[1].

A. Vinayapiṭaka: rules of the Order or monastic discipline.

I. Suttavibhaṅga—(1) Mahāvibhaṅga (2) Bikkhunivibhaṅga.

II. Khaṇḍakās—(1) Mahāvagga (2) Cullavagga.

III. Parivāra or Parivārapāṭha—a much later production.

B. Suttapiṭaka: Dhamma or the Religion.

I. Dīghanikāya—3 Books represent successively later strata of tradition.

II. Majjhimanikāya—contains similar interpolations, e.g., *suttas* Dn. 14. Mn. 123 attribute to Buddha and Moggallāna all the miracles which Buddha himself instructed monks not to practice and which are seen in later non-canonical works like Nidānakathā, Lalitavistara, etc. Mn. II. 149 mentions Yona-Kambojas of Greco-Bactrian empire, i.e., of the third century B. C.

1 Winternitz: History of Indian Literature, Vol. II. B.C. Law: History of Pali Literature, Ch. I.

III. Samyuttanikāya—Some *suttas* exhibit an epic and dramatic tinge hardly creditable to early Buddhist monks (e.g., V. 3). The prose enwrapping the sayings on Karman (III. 2, 10, 31) reads much like a commentatorial addition.

IV. Aṅguttaranikāya—Compiled at a time when the deification of Buddha was complete; compare the manner in which preaching monks answer to Indra (IV. 163f) with Aśoka's Bhabru Edict—"all that Buddha said is well said" and later Sanskrit work like Divyāvadāna—"the Buddhas will never utter what is false".

V. Khuddakanikāya—the collection was probably concluded at a late period and not a few texts included even afterwards. Its works originated at different times. These are:

(1) Khuddakapāṭha or short recital, (2) Dhammapada or religious sentences, (3) Udāna or pithy sayings—narrative portion is often silly compared to the verse and seems to be added by the compiler. In the Pāṭalisutta it is prophesied that Pāṭaliputta will be a great metropolis and will be partly destroyed by fire, flood and war. History testifies to the accuracy of the prophecy which seems to have been made after the incidents. (4) Itivuttaka or 'thus spake Buddha' sayings—contain earlier and later matters in both prose and verse. (5) Suttanipāta or section of discourses—the three ballads dealing with scenes from Buddha's youth prepare the chief features of the later Buddhist legend like the epic counterpart of the Ākhyāṇas, by the insertion of narrative stanzas between conversational stanzas. Sometimes a Yakkha or a God comes irrelevantly to introduce a dialogue (I. 6, 10; II. 4, 5,; III. 10) no doubt made by the Saṅgitikārakas. (6) Vimānavatthu or stories of divine places and (7) Petavatthu or stories of the dead—belong to the latest stratum of literature incorporated in the canon. They explain the sub-

lime doctrine of Karmaṇ of Brāhmaṇical and Buddhist texts with crude examples. Even later commentators sometimes admitted their spuriousness, e.g., King Piṅgalaka (Petav. IV. 3) ruled according to Dhammapāla's commentary 200 years after Buddha, (8) Theragāthā or songs of Elders and (9) Therigāthā or songs of lady Elders—the old and new are mixed up, e.g., a monk who wandered in heavens for 8,000 million years by offering a single flower, forestalls the Buddhist cult of Mahāyāna texts (Therag. 96); a seven year old saint performs miracles (429ff); a monk multiplies himself a thousandfold and flies through the air (563ff); 10,000 gods of Brahmā's heaven receive Sāriputta and do him honour (1082ff); the two poems describing the decay of religion (920-48, 949-80) are held to be post-Aśokan. So also Therig. 400-47, 448-51 particularly the last two songs, (10) Jātakas or Bodhisatta stories—in their present form, represent no single culture period. To gain converts, Buddhist monks circulated popular folk-tales in which Bodhisatta was made to play a part and thus converted any folk-tale into a Jātaka story, i.e., the story of Buddha in a previous birth. Besides they improvised new ones. Thus were accumulated fables and sermons of many generations. The original canonical Jātaka does not contain all the 547 stories available in the commentary edited by Fausboll in six volumes.[1] That much of both prose and poetry belonged to Buddhist tradition in the second century B. C. is proved by the Barhut, Bodhgaya and Sāñchi reliefs depicting scenes which occur only in prose. "For the great mass of the verses however, no greater antiquity than the third century B. C. can conscientiously be urged, certainly not proved, and much of the prose assuredly

1 See Rhys Davids: Buddhist India, Ch. XI. B. M. Barua: Barhut, Bk. 1.

belongs to the Christian Era", (11) Niddesa or explanations, —a commentary of antiquity, (12) Paṭisambhidāmagga or path to analysis—treated after the fashion of the later Abhidhamma texts, (13) Apadānas[1] or glorious deeds—paralleled to the Sanskrit Avadānas ; as copious a narrative work as the Jātakas and one of the very latest ; included in the canon not ealier than the 1st century B. C., (14) Buddhavaṃsa[2] or legend of the 24 former Buddhas—the commentator says that the work was recited by Buddha and handed down in uninterrupted course to the third council and beyond. But the earlier texts are familiar with only six predecessors of Gautama and it is replete with that Buddha worship and Buddha deification foreign to earlier texts. Included in the canon not earlier than the 1st century B. C., (15) Cariyapiṭaka—35 Jātakas in verse illustrating the Pāramitās of Bodhisatta. They presume a knowledge of the Jātaka stories and dry them up for purpose of canonisation ; one of the latest products.

C. Abhidhammapiṭaka: Dhamma treated in a scholastic and catechistical fashion: (1) Dhammasaṃgani, (2) Vibhaṅga, (3) Dhātukathā, (4) Puggalapannatti, (5) Kathāvatthu—attributed by tradition to Tissa of the third century B. C. who wrote it to refute heresy and quoted from the Vinayapiṭaka and the Suttapiṭaka and other authorities all in the name of the Suttanta. In its present form it is garnished even by the later orthodoxy. (6) Yamaka, (7) Patthana Pakaraṇa.

The authenticity of the Abhidhammapiṭaka as Buddhavacana has been doubted.

1 Winternitz: History of Indian Literature, tr. by Mrs. S. Ketkar, Vol. II. pp. 121-2.

2 See B. M Barua: Asutosh Silver Jubilee Volumes,—Mahāyāna in the Making, where the author argues that the books were thrown in after the compilation of the Canon.

Two non-canonical Pali works are useful for our purpose; the Milindapañho, a composition of the first century A. D. at the latest when the memory of the Greco-Bactrian King might still be fresh; and the Mahāvastu—a treasure house of Jātaka and other narratives extending between the second century B. C. and fourth century A. D.

The later compilation of the canon and its composite character disallow us as firm a chronological footing for the 6th century B. C, as some Andhra and Śaka inscriptions provide us in the second century A. D. But a careful scrutiny of the canon would reveal materials that may safely be used for the time of Buddha and others unquestionably for pre-Maurya times. The early and late portions may be distinguished from their geographical notes which, far more accurate than those of the Mahābhārata, seem to be solidly founded on personal observation.[1]

Stray and scanty but nevertheless positive data for the pre-Maurya period are also available in incidental notes of foreign historians and in indigenous works like Pāṇini's grammar which may be referred back to the 6th century B. C.

The veil of the mystery of Tretā and Dwāpar hanging around the great Epics has long been torn off; and it is now beyond dispute that they unfold to the critical eye successive strata of social and economic development extending over a wide range of place and time.

The Mahābhārata

That the Mahābhārata was a unified composition conceived

1 E. g., the description of Giribbaja and its five mountains, of the townlets and the six large metropoles in the time of the Mahāparinibbāna. Mark also that where Pāṭaliputta comes, it is introduced only by way of a prophecy to materialise in future, otherwise the place name being Pāṭaligāma.

and worked out by a master artist of remote antiquity[1] is a theory no longer given any credit. Its battle episodes alone reflect a long span of evolution—religious and political. There are striking contradictions throughout its composite structure. While the Kauravas are the villain of the piece and Pāṇḍavas pious and brave, it is the latter who knock down the Kaurava heroes with treachery and unfair combat and Kṛṣṇa, the arch-traitor and casuist who defends all his guiles as means to an end is elevated as incarnation of Viṣṇu. Winternitz[2] explains the anomaly by supposing that the bards originally composed the verses under the aegis of the Kauravas, and must have remodelled their songs to suit new patrons when political supremacy passed to the Pāṇḍavas; and the deified Kṛṣṇa,—there might have been more than one man of that name,—was invoked to defend their questionable methods.[3] The whole of the Virāṭaparva is again believed to be a later production: the simultaneous defeat of all the Kaurava stalwarts within a few hours at the hand of the single-handed Arjuna fits ill with the main battle won after eighteen days of bitter travail by the mobilised forces of the Pāṇḍavas and their allies.

Nor is the Mahābhārata homogenious in language, style and metre. The language is at places archaic, akin to the Vedic literature, at places it sounds like the Purāṇic. The style varies from the naive Ākhyāṇa or narrative style of the Brāhmaṇas and Upaniṣads to the most negligent Purāṇa style and the Kāvya style recalling even the ornate lyric of

1 J. Dahlmann: Das Mahabharata als Epos und Rechtsbuch; also Sylvain Levi, etc.

2 History of Indian Literature, Vol. I.

3 A disputable assumption. If true, the reconciliation of the crafty and divine Kṛṣṇa was done to perfection.

Kālidāsa.[1] The metre, mainly abides by the *śloka* which originated in the *anuṣṭuv*. But this exhibits earlier and later forms ; and there are also old prose, rhythmical prose and prose interspersed with verse; *triṣṭuv* metre in old and later forms and elaborate metres of classical Sanskrit.

So the Mahābhārata was retouched and interpolated as late as in the 4th century A. D. After that, except for comparatively minor additions and alterations, the book was accepted as a sacred text.[2] As regards the earlier date, it harks back to the Vedas. But the Vedic texts never mention it by name. The Sūtra literature gives earliest references to the book and its characters. Śāmkhāyana cites a war in the Kurukṣetra which ruined the Kauravas. Āśvalāyana mentions the Mahābhārata as a sacred book. Pāṇini explains the derivations of names like Yudhiṣṭhira, Bhīma, Vidura, Mahābhārata, etc. The existence of the Vaiśampāyana Mahābhārata is presupposed by Pāṇini. In Patañjali are available definite allusions to the story of the battle between the Kauravas and the Pāṇḍavas. In the Pali canon as well as in the Brāhmaṇas we find the narrative form trying its hand for the epic form. Names from the Mahābhārata occur also in the Jātakas; that their surroundings and the story spun around them are a caricature of the Epic probably only explains that it did not as yet travel far into eastern India. Hence it definitely goes as far back as the 6th century B.C, i.e., earlier than Pāṇini. Thus our Epic may have received roughly its present shape during the period extending between *cir.* 600 B. C. and *cir.* 400 A. D.[3]

1 E. g., Droṇaparva—the nocturnal scene of the battle-field. Canto 185.

2 Winternitz—*op. cit.* Vol. I. p. 463. Washburn Hopkins: Cambridge History, Vol. I. Ch. XI. p. 258.

3 The earlier date of the composition of the Mahābhārata is gener-

The Rāmāyaṇa

The Rāmāyaṇa was subjected to similar transformation though perhaps in a lesser degree than the Mahābhārata. The singers of the Rāma saga no doubt took some liberty with the original tradition orally handed down, to suit the vagaries of audiences. This alone may explain the difference between the available recensions of the text. Upon the first written story of Vālmīki again, accumulated a heap of interpolations which it is difficult to trace. To this category belong Sītā's fire ordeal at the end of the Laṁkākāṇḍa where Rāma with unwonted cruelty and shamelessness tells Sītā that he had rescued her only to vindicate Ikṣvāku honour and condones her death whereupon the gods appear to invoke Rāma as god Viṣṇu, the following scene of Rāma's interview and embrace with Daśaratha, the scene of the sending of search parties for Sītā in the Kiṣkindhyākāṇḍa,[1] the romantic scenes in the Sundarakāṇḍa, the Brāhmaṇical legends at the beginning of the Araṇyakāṇḍa, etc. By an examination of a portion of the Rāmāyaṇa Jacobi found only a quarter as genuine.[2]

The Ādikāṇḍa and the Uttarakāṇḍa, the first and the last Books, are held to be spurious in toto. Events like the marriage of Rāma's brothers referred to in Book I are completely

ally placed about 400 B. C. But the reference in Āśvalāyana to Jaiminīya Bhārata and more particularly, in Pāṇini to the Vaiśampāyana Mahābhārata leaves little room for doubt that there wss a pre-Pāṇinian version of the Mahābhārata as distinguished from the later (Maurya?) recension.

1 The four directions are mentioned as if the sender of emissaries, Sugrīva, is seated somewhere about the Kuru country while he was really at Kiṣkindhyā (Deccan). This suggests that somebody from the region of Kurukṣetra introduced the scene (40-43).

2 Quoted in Winternitz—*op. cit.* Vol. II. p. 500 fn.

ignored in later ones. The language and style are also inferior. In these two Books Rāma is an incarnation of the god Viṣṇu while elsewhere, with rare exceptions (which are supposed to be interpolated) he is a mortal hero. The main theme of the narrative is frequently broken by the insertion of Brāhmaṇical legends in the manner of the Mahābhārata and the Purāṇas, a case rare among other Books. Thus in Book I the legends of Ṛṣyaśṛṅga, Vaśiṣṭha and Viśvāmitra, of Vāmanāvatāra, of Gaṅgā's descent from heaven, of the churning of the ocean by the gods and demons, are related on the flimsiest pretexts and so the genealogy and chronology of the Rākṣasas, the adventures of Ravana, Hanumat, etc., the myths of the slaying of Vṛtra by Indra in Book VII have no bearing on the narrative. Only a fourth of the Uttarakāṇḍa bears on Rāma and Sītā. In these two Books Vālmīki becomes a contemporary of his hero and consequently a legendary figure. These two phenomena alone, deification of Rāma and conversion of Vālmīki into a legendary figure presuppose centuries of development.

The Rāmāyana falls within the larger period of development of the Mahābhārata which is a bigger and subtler epic. The latter presents with the first and last Books of the Rāmāyaṇa the same Brāhmaṇical legends but with such variation as to suggest a common source. The two Epics also show remarkable conformity in phrases, idioms and even whole verses and in language, metre and style.

In connexion with the abduction of Draupadī the Mahābhārata relates the Rāmopākhyāṇa, i. e., the abridged Ramāyaṇa in its fully developed form.[1] It contains many other

1 Raychaudhuri opines that the Rāmopākhyāṇa is not borrowed from the finished Rāmāyaṇa but derives from a common tradition as does the Dasaratha Jātaka. Studies in Indian Antiquities, Part. I. Ch. III.

references which prove familiarity with the Rāmāyaṇa as an ancient work. The Rāma epic is fully known to Aśvaghoṣa, author of Buddhacarita and contemporary of Kaniska. From the second century the Rāmāyaṇa begins to be hardened as a popular epic. Its public recitation came into vogue in the time of Kumāralāṭa's Kalpanāmaṇḍitikā (*cir.* 200 A. D.) and it was garbled with Buddhist motives by Chinese translators from the third century onwards. These data fix the posterior date of the Rāmāyaṇa to some time around 200 A. D.

The determination of the anterior date with any claim to approximation is a more complicated affair. What is the farthest antiquity that the Rāmāyaṇa can claim? The Vedic literature is as silent on the Rāmāyaṇa as on the Mahābhārata. So the Pali canon: it knows the Rāma saga but no Rāma epic and its ballad poetry is a forerunner of epic poetry. Both its contents and style assign it an earlier date than the Rāmāyaṇa. Pāṇini is equally mute. The use of the significant words "Kiṣkindhyāguhā" and "Vānarasainya" by the commentator Patañjali indicates that the Rāmāyaṇa was a widely circulated written book by the second century B. C. The name of Daśaratha, Aśoka's grandson, certainly borrowed from the Rāmāyaṇa, dates the popularity still earlier. Coming from external to internal evidence we find that the knowledge of sourthern India beyond the Godāvarī is still very vague. The older and authentic portions of the Rāmāyaṇa show absolute ignorance of the Greeks and Greek influence. From the mention of Buddha as an atheist punishable like a thief (II. 109. 34) it seems that Brāhmaṇism was hostile to Buddhism and that the eclecticism of the Kuṣāṇa period was far to come. The Rāmāyaṇa reflects the Vedic ritual: its gods are elemental (Indra, Varuṇa, Pavana, etc), not symbolic and sectarian (Viṣṇu, Śiva, etc) who stepped in from the time of the Kānvas and the Sātavāhanas. The reference to Rājagṛha and not Pāṭa-

liputra as the capital of Magadha and of Kośala as a Mahājanapada suggests that the memory of Kośalan ascendancy did not yet fade among the public. These clues throw the original composition of the Rāmāyaṇa as far back as the fourth century B. C.[1]

Thus the course of modification and development of the Rāmāyaṇa may be roughly placed between *cir.* 400 B. C.—*cir.* 200 A. D.

Megasthenes and the Periplus

Megasthenes' account in its surviving scraps within the Greek epitomes is meagre and distorted, but still it is a precious mine of concrete information for our period. Only it requires careful sifting and interpretation by reference to current theories and folklore. His quaint remarks, often summarily dismissed as cock and bull stories,[2] shed off their oddity and give reliable data when the reader manages to see things with the eye of people who lived 2,300 years back, who would look at every uncommon phenomenon with wonder and shroud it with a fantastic legend—when the reader subjects them to a critical analysis and divests them of the cloak of mystery. A few illustrations may be given to illuminate the point.

1 Winternitz (*op. cit.* Vol. II. pp. 503ff.) places the origin in *cir.* 300 B. C. It has even been argued that the Rāmāyaṇa is anterior to the Mahābhārata and that the latter represents a more barbaric stage of Indo-Aryan culture owing to foreign irruptions. Nagendranath Ghose: Asutosh Silver Jubilee volumes, Vol. III. Part. II. pp. 362ff. For the opposite view see Weber, History of Indian Literature, pp. 191-94 & Macdonell: History of Sanskrit Literature, p. 306.

2 See Rhys Davids: Buddhist India, pp. 260ff. He follows Strabo and Pliny in a somewhat unfair disparagement of Megasthenes. A powerful vindication of Megasthenes is made in the introduction to Schwanbeck's collection which is quoted in Mc Crindle's edition.

The seven castes of Magasthenes were not all imagination. As has been said above, the fourfold division of caste was only a Brāhmaṇical fetish and did not exist in Magasthenes' time. As to the classification which slowly emerged out of the separation of crafts and callings, hardening gradually under the principle of heredity, Megasthenes was not very wide of the mark. His philosophers correspond to the Samaṇa and Brāhmaṇa, his husbandmen to the Gahapati and Kuṭumbika, his herdsmen and hunters to the Pasupāla and Nesāda, his artisans to the Kammāra and Vaḍḍhaki, his warriors, overseers and counsellors and assessors to the Rājabhogga and Rājañña, all of which appear frequently in the Jātaka stories. Nor was the principle of endogamy which he averred, though too dogmatically, entirely a fiction. People do usually marry within their class.

That the Indians employed slaves is not disproved by Magasthenes' statement. But it shows the magnitude of difference in the position of slaves in ancient India and in Greece. He could not equate the *dāsas* with the slaves and helots of his own country and searched in vain in India for the vertebrate creatures of the Greek mines and the Roman *latifundia*. The *bhataka* or hireling who stood lower than the *dāsa* in the economic scale was no man's chattel and could not be called a slave.

That famine never visited India may also have been a comparative statement or he may have meant a general or protracted scarcity. "The times of scarcity in Buddhist record apparently refer only to brief periods over restricted areas."[1]

For the gold-digging ants, the Greek visitor was undoubtedly indebted to folk-tale. But it has surely a substratum

1 Mrs. Rhys Davids: Cambridge History of India, Vol. I. Ch. VIII.

of truth. Even if the theory that it was a mythical version of Tibetan miners[1] is not given credence, there is no dispute that the Indian soil was rich in gold mines and her sands and river beds contained gold-dust, whether these were extracted planfully by man or accidentally by some rodents. So the assertion that Indians are ignorant of writing must be understood with reference to the absence of written laws and to judicial transactions made upon the memory of the judges[2] as well as in the broader sense that it was more in practice to hand down tradition and wisdom by oral transmission. The statement that Indians do not practise usury may be taken as reflecting the stigma placed on it by law-givers or as conveying that rates of interest were low and money-lending did not lead to spoliation of the debtor ; that land was held in tenancy from the crown by payment of a rent as an echo of the canonical fiction that the crown was the owner of all land.

Megasthenes' accounts exist through the works of Strabo, Diodorus, Quintius Curtius, Arrian, Justin, Aelian, etc., who had access to other first-hand materials now lost to us,—a crop of narratives and memoirs from men who accompanied Alexander's expedition or visited the Indian courts. The incidental notes of Herodotus, Ctesias and Plutarch are of little value. Other classical works for reference are Pliny's Natural History and Ptolemy's Geography.

Of much more importance is the Periplus of the Erythrean Sea written in about 60 A. D. by an unknown mariner from Alexandria who sailed along the Indian route discovered by Hippalus a few years ago. This guide book is the first authentic document of organised Greco-Roman activity in the East for geographical discovery and commercial enter-

1 See Ind. Ant. Vol IV. pp. 255 ff.

2 See J. H. Nelson : J. R. A. S. Vol. XIII. Pt, II. n.s. p. 208.

prise with vessels built and manned by the West. Unlike Pliny's and Ptolemy's it is a first-hand report of trade routes, seaports and their imports and exports over the Indian Ocean including the Red Sea and the Persian Gulf with significant information on the hinterland from Africa and Arabian coast up to Tāmralipti and the Ganges valley. It gives a host of reliable details with a sure chronological footing and contributes substantially to our chapters on Industry and Commerce.

Archaeological Material

Archaeological materials are the most trustworthy of our sources, but their paucity is tantalising. The land charters of later times which throw a flood of light on contemporary economic organisation are conspicuous by their absence. The monuments and relics of Taxila, Rajgir, Sarnath, Pāṭaliputra, etc., throw much light on the progress of mechanical arts and craftsmanship. The reliefs and sculptural representations on caves, temples and *stūpas* like those at Kānheri, Bodhgayā and Bārhut give valuable evidence. Aśoka's Edicts are less helpful for the reconstruction of Maurya economy than for an understanding of his ethical and administrative system. The Barhut reliefs and inscriptions attributed to the time of the Śuṅgas, the sculptures and votive inscriptions from Sāñchi topes and the Bhaṭṭiprolu Inscriptions both assigned by Bühler to *cir*, 200 B. C. and the Jaina sculptures and inscriptions from Mathura placed by the same scholar between the 1st and the 2nd centuries A.D. give more concrete materials to fill up gaps or corroborate evidences of literature. Hardly less profitable are Khāravela's Hathigumpha Inscription, the Karle and Nasik Cave Inscriptions and the Girnar Rock Inscription of the Śaka Rudradāman from the 2nd century A.D. Numismatic materials are equally import-

ant with their chronological references. Indian and foreign coins which have been found in good number reflect the different stages of the currency system, units and standards of currency, circulation of coins, balance and distribution of foreign trade and allied matters.

Without the inscriptions, coins and sculptures our work would have been a mass of hypothetical speculation hanging in air without a footing of time and place.

The Śāstra and Sūtra Literature :

The Arthaśāstra attributed to Kauṭilya and the voluminous law-codes, the earlier Dharmasūtras of Gautama, Baudhāyana, Āpastamba and Vāśiṣṭha and the later Dharmaśāstras of Manu, Viṣṇu, Yājñavalkya, Nārada and Vṛhaspati in order of date—form a class by themselves. The Arthaśāstra, an encyclopaedic digest of social sciences and allied branches, is the most precious of our source materials after the Jātakas. But many scholars have fallen into a double error in utilising it. They take it conclusively to be a work of the early Maurya period emanated from the brain of an iron chancellor. There is weakness in these theories and the work may be assigned *a fortiori* to near about the 1st century A.D.[1] Again, it is often treated as if it is an administration report while really it is a piece of polemical literature evincing how far the conception of administrative perfection may go. In sharp contrast to the other sources the Śāstras concentrate exclusively on theorising and scholars are prone to arriving at conclusions on facts and institutions from political and juristic opinion.[2] As has been said above, the theory of *caturvarṇa* adumbrated with great pains finds

1 See Appendix.

2 Cf. Ghoshal: Agrarian System in Ancient India, p. 5—"the resemblance between the Arthaśāstra material on law and polity

little correspondence to facts. The laws of property and inheritance, of marriage, on king's prerogative and subject's right have all to be treated with much scepticism. The political and legal literature serve as a commentary on other references; and it is well to remember Senart's very useful warning;—ce n'est pas la théorie qui peut rendre compte des faits; ce sont les faits qui aident à voir la théorie sous son vrai jour à la ramener dans ses justes limites.[1]

So far for the materials. Yet these are not all. It is permissible to draw carefully upon much later literature, particularly theoretical treatises like the Jaina scriptures, the Dharmaśāstras and the Śukranīti. Works like these which embody very old traditions should not be studied with strict chronological demarcation. But it will be erroneous to gauge our resources by their volume. The treatises on Arthaveda or political economy which formed a branch of study among a group of four, comprising the *summum bonum* of life, and on Vārttā, the sciences on agriculture, cattle-breeding, trade and usury referred to in the Arthaśāstra attributed to Kauṭilya have all been lost except this one. And barring this and the Periplus, none of our books are written from an economic point of view and we ransack them in vain for detailed information and proved facts. They throw us more-

and that of the Smrtis is so close that we can unhasitatingly take them to be the allied branches of a common system. The roots of this system should doubtless be traced to actual forms of state and bodies of law existing in ancient times although it is impossible to specify either the period of time or the tract of country to which they belonged". Also Hindu Revenue system, p. 13.

It is confidently asserted by another scholar that the Arthaśāstra represents actual and not ideal conditions of state and administration as conceived and executed by the author. M. H. Gopal: Mauryan Public Finance, p. 14.

1 *op, cit*, p. 129.

over into a welter of difficulties. The Smṛtis, the Epics, the Purāṇas and the Jātakas describe a social condition different from the time of their composition. They jumble up time-worn traditions and legends with contemporary institutions and the only way out of the puzzle is to sift and arrange them in order of a natural process of evolution, checked with information supplied by Megasthenes, the inscriptions and literature of which the date is less conjectural. Our materials, moreover, present no homogeneous society with uniform practices prevailing all over Northern India to be drawn in bold outline. The tone of the Buddhist literature is democratic. The Kṣatriyas are theoretically awarded social precedence but in popular stories the moneyed middle class (*seṭṭhi* and *gahapati*) the industrial and commercial aristocracy of Anāthapiṇḍika's type are most prominent. The Epics, barring certain interpolated episodes, paint a theocratic state wherein martial and religious motives preponderate. The law-books are written with the declared purpose of enforcing the divine law. The Arthaśāstra, while agreeing with them on many points, maintains all along an economic outlook. Again, the sphere of Brāhmaṇical culture was the land of the Kurus, Pañcālas, Matsyas and Śūrasenas styled by Manu as the land of Brahmarṣi. Hence the people of Magadha and Videha who did not come under full influence of Aryan culture, are included by Manu and other law-givers among the mixed castes. This Brahmarṣideśa was to the west of Madhyadeśa and the pivot of the Mahābhārata. Farther east the Rāmāyaṇa centres about Kośala or Ayodhyā; the Jātaka stories and the Buddhist literature, cradled in the Gangetic provinces, embrace not only the whole of Prācya and Madhyadeśa but often travel as far as Gandhāra and Uttarāpatha in the north-west and sometimes bring within its purview the far east and the far south.

This maze of traditions and institutions, dogmas and realities intermingled between widely separated ages and regions baffles all consistent efforts at maintaining the time sense and the place sense in our thesis. The only relieving feature is that a remarkable identity within the divergence is noticeable on the fundamentals of social doctrines and conditions. In the midst of political clashes and religious revolutions, the social system evolved slowly and unaffected by sudden radical expositions. A new order must stand outcast and excommunicated. But if and as soon as it fights out its existence, a general tendency is marked that a compromise is made with it by the all-powerful tradition and common law and it sends an irresistible wave all over the land breaking through political and religious barriers.

Despite shortcomings, our sources open out vistas and give glimpses of a region hitherto unexplored. They reveal interesting institutions and practices at work, the exhilerating drama of man, society and nature, man's helplessness against nature, as well as his struggle—offensive and defensive, the struggle to open up her resources and to combat her freaks. Behind the divine liturgies and sacrificial fire they conjure up an advanced materialistic consciousness that had been long locked up in the priestly coffer of "Sacred Books". As the broad economic motives behind social and cultural growth are unfolded before our eyes we bid fare to the India of mystery and magic, the India of Vedic hymns, Buddhist sermons and Epic saga. We feel the hard ground of conflicts and realities under our feet. We explore the economic content of India's spiritual culture—production and distribution of wealth, co-operation and competition and the formation of classes and interests beneath the external harmony of a priestly social philosophy.

BOOK I

AGRICULTURE AND LAND

tato dhānya dhanopetān dānaśīlajanān śivān
akutaścid-bhayān ramyāṃ-ścaityayūpa-samāvṛtān
udyān-āmravanopetān sampanna-salilāśayān
tuṣṭapuṣṭajanākīrṇān gokulākulasevitān
rakṣaṇīyān narendrāṇāṃ brahmaghoṣābhināditām
rathena puruṣavyāghraḥ kośalānatyavarttata

Rāmāyaṇa, II. 50. 8-10.

Then the tiger among men left behind the villages of Kośala which were rich in wealth and paddy, inhabited by charitable men, having no cause for fear, pleasing and covered with temples and altars, adorned with parks and mango-gardens, equipped with reservoirs, thickly populated with happy and healthy folk, served by many herds of cattle with attachment, deserving of protection by kings and resounding with Vedic chants.

CHAPTER I

PHYSICAL AND GEOGRAPHICAL BACKGROUND

The Indian soil; classification. (1) Hill tracts. (2) Deserts. (3) Alluvial soil. The river system. Ganges basin. Indus basin. The Mahānadī, the Narmadā, the Tāptı and the Godāvarī. The Daṇḍaka forest. Meteorology, monsoon phases, climate. Nature and man. Gift of nature.

Geographical divisions. Three village types. Aryan and non-Aryan villages. The tribes and Janapadas.

The soil :

The key to the economic progress of Northern India is in the long range of the Himālayas in the north which obstructs the summer monsoon and sends torrents of water down its foot-hills supplied by rains or melting glaciers, and in the two great rivers of the Ganges and the Indus which carry this water into the plains all the year round. Physically this territory, stretching down to the Godāvarī in the south,[1] is divisible into three parts: (1) the mountainous borders of the Himālayas in the north and of the Vindhyas in the south with the linings of the Ghāts in the south-western and the south-eastern coasts, and the transverse range of the Aravalli hills in the centre, (2) the steppes of Sind and Rajputana extending from the coasts of the Indus up to Delhi and the Aravallis in the east, "the oldest mountain range of India,"[2] (3) the

1 Dakṣiṇāpatha was the land beyond the Godāvarī and not beyond the Narmadā. The texts frequently include principalities of the northern Deccan like Avantī, Kaliṅga, Aśmaka, Daśārṇa, Andhra, etc., among place names of Northern India.

2 Imperial Gazetteer, Vol. I, p. 33.

rich alluvium of the Indus and the Ganges mostly Aryan settlements, intervalled with large forest tracts.

Hill tracts :

The primordial mountains, clothed with impenetrable forest remained inaccessible for human settlement. But the many foot-hills where the slopes were not prohibitive, must have been increasingly brought under cultivation and settlement. The upland valleys skirting the Himālayas include some of the most fertile of Indian low-land formations in the north-west, and from historic times these were liberally "supplied with moisture by the rains and snows" (Str. XV. i. 17 ff.).

The desert :

Aristoboulos noted the contrast that "rains and snow fall only on the mountains and the regions which lie at their base and the plains experience neither the one nor the other, and are never laid under water except when the rivers rise." This often happened during the rains and Alexander's camp and the cities assumed the appearance of sea-girt islands. Otherwise the plains were a bleak and barren lot. Aristoboulos saw no rainfall between Paṭalene and the Hydaspes and in this respect Onesicritos, Eratosthenes, Nearchos and Magasthenes do not differ from him. It is because "the mountainous and northern country was the most habitable and fertile, while the southern country was onewhere waterless and elsewhere liable to be inundated by the rivers and scorched to the last degree by burning heat, fit enough to be occupied by wild beasts, but not by human beings," that Alexander resolved "to make himself master first of that part of India which had a good report" and set his route across the land of the five rivers (*ibid*).

The river system :

Of course Aristoboulos meant only the plains of the Indus and not the Gangetic plains. The regions of Delhi, western Rajputana and Sind formed a vast arid patch,[1] but the Doab, soaked as it was by the many affluents and the main stream, was a fertile country and the farther lands of Magadha and Vaṅga were drenched by abundant rainfall which was stored in the great south-eastern forests. The Indian river-system, moreover, did not fail during the hot weather, for it was watered by the melting snows of the Himālayas. The climate also escaped the scorching heat of Arabia and Ethiopia for although the temperature was the same in respect of the sun's rays, India "surpassed them in having copious supplies of water, whence the atmosphere is humid, and therefore more nutritious and productive, as is equally the case with the land and the water" (*ibid.*, 22). A third point in India's favour is that unlike the Nile the Indian rivers "pour their waters into plains of greater length and breadth and linger in the same climate" (?) thereby proving of more nutritive value than the Nile (*Ibid.*, 23).

Indo-Ganges valley:

Megasthenes and earlier Greek eye-witnesses whose memoirs were utilised for reference by subsequent classical writers, were all impressed by the great rivers of India whose magnitude and number they described with reckless hyperboles. The spinal cord of these watery nerves was formed

1 Earlier in prehistoric times the Indus had other affluents which later lost their course, among which tradition records the flow of the Saraswati as late as in the 6th century B.C. "Over a vast space of the now desert country east of the Indus traces of ancient river-beds testify to the gradual desiccation of an once fertile region; and throughout the deltaic flats of the Indus may still be seen old

by the Ganges which was the eastern boundary of the Gangaridai (Kaliṅga) and by the Indus which was the western boundary of India, both "having their sources in the mountains which stretch along the northern frontier" (Diod. II. 36). Each of these was enriched by a host of tributaries in their mid-course, the Ganges by 17 (Arr. IV. According to Pliny, 19), the Indus by almost an equal number (Arr. IV has 13, Strabo has 15, Pliny, 19) most of which were navigable (Arr. IV). The Ganges is said to have been 30 stadia[1] broad at the source (Diod. II. 37) elsewhere 100 stadia where narrowest, the shores being invisible from each other where the river spreads out into lakes (Arr. IV). The breadth is computed by another writer between 8 and 20 miles (Solin. 52.6 f.). The Indus is just inferior to the Ganges but surpasses any other river in the world. "We ought not, therefore, to distrust what we are told regarding the Indus and the Ganges, that they are beyond comparison greater than the Ister and the Nile" (Arr. IV). Altogether the number of Indian rivers is computed at 58 all of which are navigable (Diod. II. 37). Thus as Egypt is the gift of the Nile, Northern India is the making of the Indus and the Ganges, rivers of perennial water unlike their sisters in the South.

The Ganges basin:

"There is not a river in the world which has influenced humanity or contributed to the growth of material civilisation

channels which once conducted the waters of the Rann of Cutch, giving life and prosperity to the past cities of the delta which have left no living records of the countless generations that once inhabited them.....It is...clear that the Indus was not always shut off from the Peninsula of India by such wide spaces of desert as now form a formidable obstacle to progression from its bank eastward." *Ibid.*, p. 30.

1 1 Stadium = about 606 English feet.

or social ethics to such an extent as the Ganges."[1] It formed the main artery of inter-state commerce and brought down the wealth of Northern India for carrying trade at Tāmralipti. Great *puras* and *janapadas* flourished on its banks. Material prosperity, political ambition and spiritual ideals were simultaneously nurtured in this plain and made it the pivot of that culture and magnificence which was India's pride.

Being within the influence of the south-west monsoon which at present accounts for almost 90 p.c. of the total rainfall, and overhung with the thick humid atmosphere of steamy effervescence which is the characteristic of Lower Bengal and of those Southern provinces which are watered by the Mahānadī, the Gangetic basin was as now green and thick with the luxuriance of vegetation. The casual references in the Pali works conjure up the panoramic vision between the Oudh and the Delta of "a wide area of crop-producing land, broken by clustering groves of mango, tamarind and other trees, giving place gradually to long lines and avenues of palms bordering the fresh verdure of irrigated rice-fields in the lower reaches of the valley."[2]

The Indus basin:

The western arm of the Indo-Gangetic depression presents slightly different characteristics from the Ganges valley. The upper Indus plain was not a flat treeless terrain as now. Its banks grew forests enough to enable Alexander to build his Indian flotilla; and about the valley of the Peshawar there were wide spaces of waterlogged and swampy plains with thick forests sheltering elephants and rhinoes. Accordingly, the meteorological conditions of the Punjab valley could not

1 Imperial Gazetteer, Vol. I, p. 26.

2 *Ibid.*, p. 22.

have been as they are now and the terrific heat of summer and scanty rainfall must have been unknown.[1]

Unlike the Ganges again the Indus keeps its characteristics of a gorge-enclosed river throughout its course up to the sea. Like the Brahmaputra it builds up its bed by the deposit of silt. "The gradually increasing elevation of its great silt-formed aqueduct is always a serious menace to the surrounding country in as much as it leads to very extensive and very dangerous floods,"[2] Such floods were encountered by Alexander and the memoir-writers of his campaign.

The Deccan plateau:

The basin of the Mahānadī differs very little from the Ganges basin in essential physical characteristics. Its rich delta no doubt contributed to the prosperity of the ancient state of Kaliṅga as Avantī was favoured by the estuaries of the Narmadā and the Tāpti and the Rann of Gutch in the low-lands and by the precious sheet of black cotton soil in the uplands (Peri. 41). Except for the western states of Avantī and Mālwā and the eastern ones of Aśmaka and Kaliṅga, the broad central plateau between the Ghāts and the Vindhyas and the Godāvarī was covered by the primeval forest of Daṇḍaka which was the more effective barrier between the North and the South than the Vindhya range or the Narmadā river.[3]

1 In the 5th century B. C. the Punjab or the Indian satrapy of Darius' Empire was the richest province and yielded a tribute of 560 talents of gold (£3,000,000) each year.

2 *Ibid.*, p. 30.

3 The Rāmayaṇa account interposes the forest in the vast gap between Avantī, Vidarbha, Matsya and Kaliṅga in the north and Andhra, Puṇḍra, Cola and Pāṇḍya in the south (IV. 41).

Meteorology, monsoons, climate:

Like the topography, the meteorology of India is full of variety and contrast; it ranges between the heavy rainfall of Assam and Cherrapunji and the absolute dryness of upper Sind.[1] The coasts are exposed to fierce cyclones hardly known in Europe, bringing storm waves that sweep the low coastland of lower Bengal and the deltas of the Mahānadī and the Godāvarī destroying crops and drowning men. The monsoon phases of India are pronounced and their contrast is more marked than anywhere else. During one half of the year, the term of the North-East monsoon, it is swept by dry land winds with little cloud and rain, and during the other half, in the South-West monsoon time, it is blown by winds of oceanic origin with high humidity, much cloud and frequent rains. These factors are connected with a noteworthy combination of tropical and temperate region conditions. "Tropical heat, heavy and frequent rain and fierce cyclones are prevalent at one period of the year; while moderate temperature and rain, with shallow, extensive storms, conditions resembling those of south-eastern Europe, obtain at another."[2]

Nature vs. man:

The natural surroundings, therefore, did not promise the Indian too easy a life. Among those who believe that Indians were never hard fighters against nature nor ambitious of material prosperity, it is a common cliché that while in

1 According to the Arthaśāstra, rainfall in the country of Jāṃgala (desert countries) is 16 *droṇas*, in moist countries (anupā nām) 24 *droṇas*, in the Aśmakas (Mahārāṣṭra) 13½ *dronas*, in Avantī 23 *droṇas*, in the western countries (Aparāntānām) and the Himālayan borders an immense quantity. II. 24.

2 Imperial Gazetteer, Vol. I, p. 105.

temperate regions an economical nature yields nothing save in response to hard labour, in the tropics, nature except for sudden vagaries supplies the necessities of man with very little strain on his part and this promotes inertia and fatalism. An economist has refuted this theory and upheld that "the greater the fertility, the greater the incentive to skill";[1] and the contention is amply borne out by the early economic history of the Gangetic plains. The preachers of "oriental apathy" moreover overlook the fact that India is not uniformly a tropical region and nature is not as munificent as it is supposed to be.[2] Within the boundaries of the northern sector almost any extreme of climate that is known to the tropics or the temperate zone may be found. Throughout its major portion rainfall is precarious and the lands of upper Sind and western Rajputana must have suffered under chronic drought and depended entirely on irrigation as now. The marked discontinuity of Indian rainfall and its confinement to certain definite seasons causes shortage of soil moisture, soil erosion and water-logging and so flood has always been a serious natural enemy which calls forth all the nerve and ingenuity that man is capable of.

From the diversity of her physical features, India came to possess a great variety of animal, vegetable and mineral products ; the thick-coated hill sheep of Kashmir, the camel of

1 A. M. Carr-Saunders—The Population Problem, p. 422.

2 "For ages the Indus has been pushing its bed across the valley from east to west, generally by the gradual process of erosion, which effectually wipes out every trace of town and village on its banks, but at times also by a more or less sudden shifting of its waters into entirely new channels, leaving large tracts of country to go to waste, and forcing the inhabitants of many a populous place to abandon their old homes, and follow the river in search of new settlements." J.R.A.S., Vol. XVI, p. 281. See Strabo, XVI, i. 19.

Sind and the elephant and tiger of Bengal forest ; the wheat, fruit and fir trees of the north and the rice and cocoanuts of the hot low-lying swamps and coastal regions ; the coal and ironfields of Bengal, Bihar and Orissa, the gold of Mysore and the salt ranges of the Punjab. The density of population and the economic habits of the people have also varied greatly, influenced by diverse physical conditions ; the peaceful agriculturist of the Gangetic valley, the hard-working Deccanese, the shepherd hillmen of the Himālayas and the primitive huntsmen of the forest regions—all live side by side on the Indian soil.

Three types of villages:

During the period under study, villages may be classified into three economic types. The main and the majority were those which grew out of an intermixture of the Aryan and non-Aryan settlers, founded chiefly on agriculture. The habitat (vāstu), centred round the patron deity of the villages, was encircled by the *gāmakhetta* or cultivated field outside which lay forests and pasture grounds (vraja). Of a different type was the *paccantagāma* or border village inhabited by aboriginal or degraded tribes. These people occupied also the slopes of the Himālayas, the Vindyas and the Aravallis even as now as well as the trans-Gangetic regions where Ptolemy locates all non-Aryan tribes with a thin sprinkling of Brāhmaṇical settlements. In the Mahābhārata native and foreign barbarians like the Kirātas, Daradas, Cīnas, Śakas, etc., and outcastes like the Bāhlikas, Madras, Prāgjyotiṣas, etc., are seen distributed along a semi-circular arch from Sind to the Bengal Delta (cf. Baudh., I. 1. 2. 13-15). Outside the 16 Mahājanapadas of the Aṅguttara-nikāya land was mostly occupied by the aboriginal. As land of the superior grade was appropriated by the conquerors, the original settlers were pushed into the marches

where the soil offered little attraction to the cultivator. These people accordingly led a bohemian life upon freebooting, hunting and animal-keeping. The third type consisted of industrial and professional villages, *i.e.*, villages founded on a particular trade or profession, the inhabitants whereof specialised in a particular art and catered to the needs of neighbouring districts.[1]

Geographical divisions:

Cunningham, following Hiuen Tsang and the official records of the Thang Dynasty of the 7th century, has divided the Indian continent into five Indies, *viz.*, North, West, Centre, East and South.[2] These correspond respectively to the fivefold division given in the Kāvyamīmāṃsā and in the Bhuvanakoṣa section of the Purāṇas, *viz.*, Udīcya (Pali—Uttarāpatha), Aparānta (Pali—Aparāntaka), Madhyadeśa (Pali—Majjhimadesa), Prācya (Pali—Pubbanta) and Dakṣiṇāpatha (Pali—Dakkhināpatha).

The Aṅguttara-nikāya enumerates sixteen Mahājanapadas, *viz.*, Kāsi, Kośala, Aṅga, Magadha, Vajji, Malla, Cedi, Vaṃsa, Kuru, Pañcāla, Matsya, Surasena, Assaka, Avanti, Gandhāra and Kāmboja (I. 213; IV, 252, 256, 260). Between the similar lists of the Karṇaparva of the Mahābhārata and of the Janavasabha Suttanta of the Dīghanikāya, this is the most exhaustive. The Jaina Bhagavatī Sūtra shows a wider horizon of a later time. In the Bhīṣmaparva of the Mahābhārata as many as about 150 tribal or place names are recorded for northern India (9. 38ff). But the list is of very little use, vitiated as it is

1 The first type comes within the purview of this Book. The villages of robbers and the huntsmen are treated in Book V. Ch. III, of the *Caṇḍālas* and degraded castes and professions in Book VI. Ch. III, the industrial villages in Book II. Ch. V.

2 Ancient Geography of India, pp. 11 ff.

by mythical names, duplications and triplications, juxtaposition of old and late names, etc.

Of the 16 Mahājanapadas of the Anguttara-nikāya as many as 12 flourished in the Ganges valley. Only Gandhāra and Kāmboja are seen in the Indus valley, Avantī on the Narmadā and Assaka on the Godāvarī. Other important *janapadas* or tribal settlements whose existence was not merely imaginary and which may be located with approximate precision are Bāhlika in northern Afghanistan, Surāṣṭra in Gujarat, Madra in the Punjab, Daśārṇa in Madhya Pradesh, Vidarbha in Bombay, Puṇḍravardhana in West Bengal, Vaṅga in East Bengal and Kaliṅga which included Orissa and northern part of Andhra. Besides, the Greek writers give a long list of petty principalities in Sind and the Punjab.

Except for the inscriptions, which are moreover few and taciturn, all our sources are confined almost exclusively to the description of the Madhyadeśa which stretched between the Kuru country and Puṇḍravardhana. Information about the people of the Punjab, Sind and trans-Gangetic regions is meagre, coloured by prejudices and mixed up with legends. Megasthenes himself was trapped into the old wives' tales regarding some of these peoples, which were current among the people of the Madhyadeśa. The fabulous stories about the Madras and the Bāhlikas in the Epics is a sad contrast to the realistic picture of the Magadhans and Kośalans in Pali literature and until streaks of light radiate from the inscriptions in the rock-caves of Karle, Nasik, Junagaḍh, Hathigumpha, etc., the reader remains almost in the dark about local institutions and enterprise and the stages of economic development.

CHAPTER II

THE AGRARIAN SYSTEM

Theories of peasant, communal and state ownership of land. Ownership and possession—right of transfer. Individual ownership; tenancy system; significance of Karle and Nasik charters. Communal ownership; Baden Powell's theory. Theory and pratice of royal ownership; scope of royal title. Royal domains. Partnership of rights and title between crown, community and cultivator in ordinary land excepting land under sole authority of crown or community.

Big and small estates: agricultural indebtedness. No privileges based on land.

Divergent theories of ownership :

The difference of scholastic opinion over the land system of the Indo-Aryans has not been narrowed down with the progress of research on the subject since the memorable works of Maine and Baden Powell inaugurated the controversy. There is no dearth of ancient authorities for every rival opinion to substantiate its claim that the land system was founded on individual, communal or royal ownership. These conflicting theories and practices in our literary material rule out any convenient labelling for a vast country where different cultural and racial units fused together or throve in isolation and lead to the only safe conclusion that "different villages in different districts varied one from another in the customs of land-tenure and in the rights of individual householder as against the community."[1]

Ownership distinguished from possession :

Doubt has even been raised whether the conception of

1 Rhys Davids : Buddhist India, Ch. III.

ownership of agricultural lands had at all been reached when the Sacred Law was formulated[1] and the contention has been competently fought by an Indian scholar.[2] As has been pointed out, the Sacred Law distinguishes even in respect of terminology the idea of ownership from that of restricted real rights: ownership indicated by *svatva, svāmītva,* etc., possession by the root *bhuj* and its derivatives. The field belongs to him who first removes the weed as the deer to him who first shoots it.[3] Though mere possession as distinct from ownership is implied in this injunction it recognises the right of first clearing as constituting the original title to the land. This distinction between possession and title is repeatedly emphasised in later law books (Yāj. II. 29; Vr. IX. 2 ff). Medieval law-digests explicitly define ownership as the quality of the object owned being used according to pleasure. The Smṛtis further testify that the essential attribute associated with ownership is the right of transfer by sale, gift and mortgage (Gaut. XIX. 17; Baudh. III. 10. 15; Manu, X. 114; Vr. VIII. 6f. ; Arth. III. 9); an owner might also use land as pledge (Manu, VIII. 143; Nār. I. 125. Asahāya's commentary).

Individual ownership in Pali works :

An examination of literary materials shows that individual ownership of agricultural (khetta) and homestead (vatthu) land stood the application of these tests.[4] It is a common warning

1 Moreland : Agrarian System of Moslem India, p. 4.

2 Ghoshal : Agarian System in Ancient India, Lec. V.

3 Sthāṇucchedasya kedāram āhuḥ śalyavato mṛgam ; Manu IX. 44. See also Kullūka's commentary on it.

4 Vedic Aryans at the dawn of their history exhibit instances of full-grown private proprietorship. See Macdonell and Keith: Vedic Index, I. 211. also N. C. Banerji: Economic Life and Progress, pp. 100 ff.

in canonical works that a genuine *bhikkhu* has no sons, animals, arable or homestead land,[1] *i.e.*, the movable and immovable property which generally belongs to the householder. The implication is clear that land is as much personal property as cattle. The *khetta* and the *vatthu* also figure along with *hiraññа, suvaṇṇa, gābhi, dāsa, bhariya*, etc., as gifts that may be offered to a *bhikkhu* by a woman, a harlot, an adult girl, a eunuch, a king, a robber and a rascal (Mv. III. 11. 4 ff.; *cf.* Mil. p. 279; Therag, 957). The passage illustrates not only a ripe sense of ownership but also that there was at least no strict and general sex-barrier in ownership of land of which Ambapāli and Visākhā Migāramātā are concrete examples (Therig. 340). A parable in the Milindapañho illustrates how acquisition of land by clearance of forests tended to develop into a legal title:

"It is as when a man clears away the jungle and sets free a piece of land and the people say—'that is his land.' Not that the land is made by him. It is because he has brought the land into use that he is called the owner of the land."

"Yathā.....koci puriso vanaṃ sodhitvā bhūmiṃ nīharati tassa sā bhūmīti jana voharati na c'esā bhūmi tena pavattitā taṃ bhūmiṃ kāraṇaṃ katvā bhūmisāmiko nāma hoti." P. 219.

Similar instances of private appropriation with reclamation of forests is seen in the Jātakas (IV. 167) and the Epics (Rām. II. 32. 30). A glimpse into the legal origion of individual ownership is afforded by the tradition embodied in the Jātaka stories where the deer eat up the crops of villagers and an understanding is reached between the man-king and the deer-kirg to the effect that each man should mark out his plot and

1 na tassa putta pasavo vā khettaṃ vatthuṃ na vijjati, Sut. IV. x. 11. In the Kāmasutta this ownership is spoken of in positive terms. (IV. i). *Cf* Jāt. II. 99; Mbh. XII. 296. 3; Jacobi: J. S. II, pp. 59, 90, 347.

set up a placard therein so that the deer folk might distinguish it from unclaimed land and spare it (I 153; IV. 262 f). A Brāhmaṇa land-owner of Magadha offers 1,000 *karīsa*s of his estate as a gift to a parrot (IV. 281). The Jātakas record the donation of parks by the doctor Jīvaka at Rājagaha, by the courtesan Ambapāli at Vesāli and by the merchant Anāthapiṇḍika at Sāvatthi who, moreover, gives the pleasance after purchase from prince Jeta, thus showing a double process of private transfer. Elsewhere Bodhisatta is seen to form an estate outside his native village which indicates that alienation of land by sale, mortgage or otherwise was not unknown (III. 293) and that land had acquired a certain measure of fluidity. The story which relates how Bodhisatta remonstrated with a *gahapati* who murdered his nephew to be owner of an undivided estate and concluded his sermon by uttering a verse to elucidate how silly it was to guard one's fortunes whimpering 'mine, mine' all the while (III. 301 f.), sets at rest all doubt as to whether a clear notion on the concept of ownership in land had grown up as yet.

The transaction between Anāthapiṇḍika and Jeta is of unique interest to bear quotation.

Land suit over Jetavana :

Anāthapiṇḍiko gahapati.....Jetaṃ kumāraṃ etad avoca: dehi me ayyaputta uyyānaṃ ārāmaṃ kātun ti. adeyyo gahapatī ārāmo api koṭisantharenā 'ti. gahito ayyaputta ārāmo 'ti. na gahapati gahito ārāmo 'ti. gohito na gahito 'ti vohārike mahāmatte pucchiṃsu. mahāmattā evaṃ āhaṃsu: yato tayā ayaputta aggho kato gahito ārāmo 'ti. atha kho Anāthapiṇḍiko gahapati sakaṭehi hiraññaṃ nibbhāhāpetvā Jetavanaṃ koṭisantharaṃ santharāpesi." Cv. VI. 4. 9.

Householder Anāthapiṇḍika...said thus to Prince Jeta: "Sir, give me the park for being made into a pleasance." "Householder, the park is not to be given even for a crore."

"The park is sold, sir." "The park is not sold, householder," "Sold or not sold, I shal ask the officers of justice." The judges said thus: "Sir, since you quoted a price the park is sold." Then householder Anāthapiṇḍika took cartloads of gold coin and covered the Jeta park with one crore.

Evidently Jeta's answer to the offer of purchase is misreported here for on the merit of this the law-suit cannot go against him. Buddhaghoṣa in his commentary Sāmantapāsādika gives the correct report based upon some older Indian legend which the Bārhut sculptor had before him. From this version as well as the Bārhut representation, it appears, moreover, that Anāthapiṇḍika took Jeta at his word, closed the bargain, took possession of the park and asserted his right of ownership by going so far as to cut down all the trees except one mango and a few *candana* trees.[1] The bargain, the taking of possession, Jeta's ultimate backing out, reference to law court[2] and the judicial verdict are all unmistakable evidences of legal ownership of the individual and of transfer of right by sale.

Cursory and allegorial references in the Dīgha-nikāya corroborate the foregoing conclusion. It significantly remarks on the 'division of rice-fields' and setting up 'of boundaries between the two' (sattā sālim vibhajimsu mariyādam thapesum, XXVII. 18) and on the stealing of another's plot (khetta, *ibid*., 19).[3] In a parable Buddha derides the folly of "a man

1 Hardy: Manual of Buddhism. p. 218 f. Barua: Bārhut, II, p. 31.

2 That civil suits over dispute on land were not infrequent is pointed out by the Milinda parable (p. 47) where a *khettasāmiko* litigates against another who burns his field. *Cf.* Baudha. I. 10. 19. 12; II. 1. 2. 4; Arth. III. 9.

3 The dispossessor of another's plot is one of the six varieties of *ātatāyin* according to the commentator on the Mahābharata: V. 173. 1; *cf.* Yāj. II. 155; Arth. III. 9, 17; IV. 10; Gaut. XIII. 17.

who neglecting his own field should take thought to weed out his neighbour's field" (sakaṃ khettaṃ ohāya paraṃ khettaṃ niddaẏitabbaṃ, XII. 7). This became an oft-quoted hit to laugh down a fool, for the sarcastic analogy occurs in the Mahābhārata as well—parakṣetre nirvapati yaśca vījam (V. 36.5).

Gift of land is classed among acts of exemplary piety in the Epics (Mbh. III. 199. 127 ff.). The imprecatory verses of the Mahābhārata directed against those who revoke grants or infringe rights of land once transferred (XIII. 62; V. 36. 13) are conventionally and meticulously repeated in the land-charters inscribed on stone and copper plates. There is no reason why an act of grace which would be salvation for the royal race should not be the same for humbler folk (Rām. III. 68. 29; VII. 28. 21; Mbh. XIII. 23. 111).

Right of letting land for rent :

According to Āpastamba land might be let by an individual against a certain share of the produce (kṣetram parigṛhyo' tthānābhāvāt phalābhāve yaḥ samṛddhaḥ sa bhāvi tadaparihāryaḥ, II. 11. 28. 1. 1; *cf.* I 6. 18. 20). Vyāsa and Vṛhaspati also imply the leasing of fields in the same manner. Similarly the Arthaśāstra lays down that if a holding of one man is taken possession of by another on some reasonable grounds, he shall be made to pay the owner some rent, the amount of which is to be fixed after mature consideration of what is necessary for the subsistence of the cultivator of the holding (karaṇādane prayāsam ājīvaṃ ca parisaṃkhyāya bandhaṃ dadyāt, III. 9). In contrast to the rule on royal land, the indifferent cultivator does not forfeit his plot: the man who makes improvement on another's neglected plot must surrender it after five years to the owner on obtaining a compensation (anādeyam akṛṣato 'nyaḥ pañca varṣāṇy-

upabhujya prayāsa-niṣkrayeṇa dadyāt, III. 10). These rules suggest the growth of a tenancy system within the framework of private proprietorship. This was the natural result of the concentration of land and the rise of big estates. When a holding was too vast to be managed by the owner personally even by means of slaves and hired labourers it would be rented to cultivating tenants. As we shall see anon this was a common practice with regard to king's lands. Thus the system of peasant proprietorship was considerably affected although it did not give place to a system of zemindary. Absence of corroborative reference in the Jātakas and popular literature shows that there was no widespread subinfeudation of land.[1]

Significance of Karle and Nasik Inscriptions :

Early epigraphic records give scanty but illuminating data. An early instance of private transfer is furnished by Dharmanandin, son of an *upāsaka* who made a bequest of a field for the clothes of some ascetics living in one of the Nasik caves (No 9. pl. iii). In the Karle Cave Inscriptions, Usavadāta's assignment of 16 villages to *devas*, Brāhmaṇas and ascetics seems to imply only the assignment of revenues for assuring peaceful pursuit of spiritual avocations—not the transfer of ownership or right of alienation by sale, mortgage or gift as is customary in later land-charters. A similar gift to the Bhadāyaniya sect of the *saṃgha* is recorded in the Nasik Cave Inscription 2. i. The following plates are more interesting and deserve more than passing notice. The charter of Vāśiṣṭhiputra Pulumāyi is marked by three characteristics: (*a*) the village is assigned "to be owned by the *bhikkhus*.....

1 From the testimony of Fa-hien and Yājñavalkya Smṛti it would appear that the system of tenancy in agricultural land was more widely prevalent during the Gupta age.

dwelling in the cave to produce a perpetual rent for the care of the cave" (bhikhuhi devileṇavāsehi nikāyena Bhadāyaniyehi patigaya dato), (*b*) with customary immunities belonging to monks' land (bhikhuhalaparihāra) free from the entry of royal officers and the police, *i.e.*, from revenues and fines[1] and from the royal monopoly of salt. (*c*) The king's right to abrogate the grant substituting another in its stead is implicit in the donation (3. ii). With exactly the same immunities a field of 200 *nivartanas* in a village is assigned to the Tekirasi ascetics by Gautamiputra Śātakarṇi (4. ii). In both cases the donor is a king, the donee a religious order, the immunities are the same, but in the former case the gift is a whole village, in the latter only a *khetta*. The nature of the grant cannot be the same in the case of a village (with its population of cultivators) and that of a cultivated field thereof, however, conventionally the immunities may be repeated. The contrast is boldly marked out by another writ of Gautamiputra Śātakarṇi which directs that since a field in the village of *kakhadi* granted to certain ascetics was not cultivated, nor the village inhabited, 100 *nivartanas* of land from the same be given to the ascetics with customary immunities (5. ii). The field is explicitly characterised as a 'royal field' (rājakaṃ kheta). The probable explanation is that originally only the revenues of the crown land were assigned (the ownership indicated in 3. ii must be understood in this sense) but since the village was depopulated for some reason or other and the field remained untilled and produced no revenue to be enjoyed, the king assigned a portion thereof with complete rights of a beneficiary and usufructuary—and if we may hazard the suggestion, as a *brahmadeya* or tax-free gift of land.

1 *Cf. adaṇḍakarāṇi* in the Arthaśāstra, II. 1.

Right of freeholders not infringed by royal grant :

The implication and upshot of these instances are that the king's charter might bear on private land or on crown land. In the first case it was only a matter of transfer of revenue over which the king had undivided legal right, and not of ownership and usufruct. In the second case, the assignment is only of revenue when whole villages are disposed of along with the tillers and their holdings, and of ownership and usufruct when the gift consists of a few acres of land.[1] The right of freeholders stood unimpugned in the case of transfer of land which was not crown property.[2] This is proved by the grant of Usavadāta (10. iv) in which a field was bought from a Brāhmaṇa "belonging to his father" for the price of 4,000 *kahāpaṇa*s and "from it food will be procured for all monks dwelling in my cave."[3] This is why the *brahmadeya* gift of land which carried with it ownership and usufruct and not merely revenue, could be made only of crown lands (Dn. III. i. 1; IV. i. 1; XII. i. I; Mn. II. 164; Arth. II. 1). This was the general custom and order prevailing not only in the Deccan under Sātavāhana rule but according to all extant testimony, also in the Indo-Ganges valley from much earlier time down to a few centuries of the Christian era.

Impartible real estate—a blow on individual ownership :

But peasant-proprietorship was not the uniform and universal principle of land tenure. Although Maine's analogy

1 Distinctive gifts of land and villages occur side by side in the Mahābhārata, XIII. 10. 62 ; 23. 111.

2 We shall see that in crown lands there were no freeholders but only king's tenants and agricultural labourers.

3 *Cf.* a Tamil inscription of Kṛṣṇa III wherein the king assigns land to a god after purchasing it from the members of a village assembly. Ep. Ind. VII. 20G. These are definite recognitions of personal and communal ownership with rights of transfer by sale, etc.

with the Teutonic mark[1] is now generally discarded, Baden Powell's theory of undiluted private ownership[2] supported by most of the modern scholars does not stand close examination. As observed by Washburn Hopkins—"The general Hindu theory of impartible real estate is a distinct blow to the sweeping generalisation made by Baden Powell when he stated that the early Aryans in India recognised only private ownership in land."[3] The early jurists like Gautama, Manu and Uśanas are very reticent about partibility of land.[4] It is only later jurists of the 4th and 5th centuries who recognise land to be partible. It may be noted also that while Manu's boundary laws open with rules for the adjustment of boundaries between disputing villages (X), the subsidiary law in regard to boundary lines of a field, spring, reservoir, garden or house being added only as an appendix, Yājñavalkya reverses the order laying down 'the law in regard to fields' and adding that 'the same applied to villages'. An interesting admonition from a sage to his brother in the Mahābhārata on the evils of partition of patrimony which encourages quarrel, estrangement and ruin reflects the working of this tendency, *i.e.*, how ownership of the joint family (which is conterminous with joint

1 "The Indian and the European systems of enjoyment and tillage by men grouped in village communities are in all essential particulars identical"—Village Communities of the East and West, p. 103.

2 Indian Village Community. Article on Origin of Village Land Tenures in India, *J.R.A.S.*, Vol XXX.

3 India—Old and New, p. 218.

4 This must not be taken to mean that partition of estates was toally unknown. The Ṛg-veda bears witness that the son's right in real property was implicit even in father's life-time and could be exercised in partition (I. 70.10), the right which is the basis of the *Mitākṣarā system* of the law of succession (*cf.* Ait. Br., V. 14; Tait. Saṃ., II. 6. 1).

village in patriarchal society) was sought to be maintained by wise counsel against the encroachment of partition and full-fledged private individual property (I. 29. 16-22).

Communal ownership in tradition and folk-lore :

The tradition of unrestricted communal ownership of soil was handed down from hoary antiquity from the region of the extreme north associated with the Uttarakurus who were proverbial for their piety and wisdom (kṛtapuṇya-pratiśrayaḥ, Mbh. VI. 6. 13.). These idealised folk called no goods their own, nor women their chattels and their crops were yielded without toil, so goes the pæan of praise in the Dīgha-nikāya (XXXII. 7). In the same vein Vaiśampāyana describes the Kuru land in the good old days of Duṣmanta (Mbh. I. 68). Nor was the custom confined to the north-west or to pre-Buddhistic times. In the Tiṇḍuka Jātaka a fruit tree appears as the corporate property of a village (II.76 f.). In the Sihacamma Jātaka a *yavakhetta* or wheat-field where an ass is let loose by a sharper and which is defended by all the villagers in a body seems to be common village property unless this be a field under collective farming (II. 109ff.). To the village corporation belonged the village pond (candanikam), the moothall (sāla) and irrigation tanks and canals, roads, bridges, parks, etc. (Jāt. I. 199). The Jātaka evidences also leave no room for doubt that the ill-defined belt of pasture land or *vraja* around the *gāmakhetta* was enjoyed and owned by the villagers in common (*cf.* Rv. X. 19. 3f.). According to Manu the land around a village on all sides for 100 bows (about 600 ft.) is common land (VIII. 237 f.). According to the Arthuśāstra this is 800 *aṅgulas* (III. 10).

In aristocratic republics :

The brief story in the *paccupannavatthu* of the Kunāla Jātaka throws a vivid sidelight on the agrarian system in

certain aristocratic republics (V. 412 f). The Śākyas and the Koliyas each cultivated their tribal land held in common enterprise and organization by means of a dam from the river Rohini worked by cooperative irrigation. The owners proper of the land were the *rājakulas* or aristocratic families. They had subordinates to work the estates or manage the administration (tasmim kamme niyutta amacca). To this category of intermediaries belonged the *sevaka, bhojaka, amacca* and *uparāja* (*cf.* Jāt. I. 504). The actual labour was done by slaves (dāsi, dāsa) and hired hands (kammakarā) who fell to quarrel on behalf of their masters over the prior claim to the waters. The *rājakulas* together with their vassals and officers formed the tribal body or body-politic and the slaves and serfs were left out when the Śakyas and Koliyas were mentioned. The latter version of the dispute significantly makes the partition—'dāsakammakarā c'eva sevakabhojakāmacca uparājāno ca'ti sabbe yuddhasajjā nikkhamiṃsū.'

This supposition is strengthened by a passing observation in the Mahāvastu. The Śākya chiefs give their incoming sisters' children 'Sākya wives, cultivated lands and villages.'[1] The presumption is that land was held in common between the *rājakulas*, members whereof either parcelled out portions to others on tenancy or held plots in usufructuary enjoyment.

In the Arthaśāstra :

Speaking of certain unspecified tribes, probably of the Punjab, Strabo notes that "the land is cultivated by families in common and when the crops are collected, each person

1 B. C. Law : Study of the Mahāvastu, p. 57. The Mahāvastu and the Jātaka commentary are, of course, both later works. But the joint-family ownership must have been a feature of the oligarchical and corporate life associated with the Śākya clan from much earlier time.

takes a load for his support throughout the year" (XV. i. 66). In the Arthaśāstra, land owned by the village community is hardly traced. But like the Smṛtis it deals with boundary disputes not only between individuals but also between villages which are to be settled by elders of 5 or 10 villages (III. 9). The significance of such village boundary, however, is not made clear. Had the village community the right to collect some taxes within its jurisdiction ? The probability is strengthened by the rule in next chapter that the fine levied on a cultivator who, arriving at a village for work, does not abide by the contract shall be taken by the village itself (karṣakasya grāmam abhyupetvā-'kurvato grāma evātyayaṃ haret). It would be rash to infer the leasing of communal land to an outside cultivator from this meagre statement. It would rather suggest a system of farming in which workers were employed under a cooperative enterprise for cultivation of the villagers' fields.

After laying down that there must be no bidding in the absence of the owner, the Arthaśāstra gives another law, 'saptarātrād-ūrddhvam-anabhisarataḥ pratikruṣṭo vikrīṇīta': "if the owner does not come forward even on the expiration of seven nights, the bidder may take possession of the property." Reading this with the rule in the next chapter, (III. 10)—'akaradāḥ paratra vasanto bhogam upajīveyuḥ'—"non-taxpayers (*i. e.*, owners of *brahmadeya*) shall retain ownership even if they sojourn abroad,"—it seems that an owner (taxpayer) lost his title to the *vāstu* if he left it for a foreign land and remained untraced for seven nights, when the villagers in a body, represented by the elders, might dispose of it.

In later inscriptions :

Thus although in the land system of the Arthaśāstra communal ownership was obviously on the wane it still had

lingering traces which restricted real rights of cultivators. Nor was it totally extinct in any period in the ancient economy of northern India, not to speak of the Tamil countries of the far south. A Gwalior Inscription of as late as the 9th century records a temple grant by a town of plots of land "which was its own property" (svabhuñjamāna, svabhukti) specified as belonging to village so and so and cultivated by so and so (memmakavāhitakṣetraṃ).[1] Here obviously the corporate person is the legal owner and the cultivator only a tenant.

A few copperplate documents of Bengal from the 5th and 6th centuries recording purchase and gift of land lend strength to this supposition. In some of these the intending purchasers, official or non-official, had to address in their application for purchase not only the administrative functionaries of the province (bhukti) and the district (viṣaya), but also the leading men or elders in the same, as well as the other rural officers, *e.g.*, *aṣṭakulādhikaraṇa*s, *grāmika*s and the chief householders (kuṭumbins), while in others the purchasers approached with their application the administrative machinery of the district town which had a Board or Council attached to it consisting of the representatives of the four important interests of those days, *viz.*, the merchants, the traders, the artisans and the scribes or official secretaries. Sometimes the documents bear the seal of the two Government courts, *viz.*, those of the district of Vārakamaṇḍala and of the district town of Koṭivarṣa. The land for sale is cultivable field (kṣetra), homestead land (vāstu) or waste land (khila). Who were the owners of these lands ? R. G. Basak pertinently asks that if they belonged to the state, "why it could not alienate them without the consent or approval of the

1 Ep. In. I. 20.

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peoples' representatives, the *mahattaras* and the businessmen (vyavahārin) of the province and the district and sometimes even the common folk ?" Moreover, why should the state, in a sale of land which is absolutely its own, get only 1/6 of the sale proceeds as is clearly mentioned in one of the documents ? It seems clear that the remaining 5/6 went to the funds of the village assemblies who formed a party with Government in granting prayers for purchase and that there was a joint ownership of land between the state and the village community—a state of affairs very similar to that prevailing in the village economy of the far south.[1]

Baden Powell's arguments against communal ownership :

Baden Powell tries to establish his theory of peasant ownership by examining the character of the severalty and the joint villages which are distinguished from one another by the following features. The former has a *paṭel* or headman, the latter none. The former has holdings which have always been separate, the latter has holdings which are only inherited shares of an original single estate. In the former each holding is assessed separately, the latter has a joint liability, the revenue being assessed at a lump sum. The joint village is of three types. In the tribal or clan type, members hold shares separately, there being only united ownership of waste land and of the village site, and a united responsibility for taxes. Such a tribal allotment has actually been the starting point of the true severalty village, as shown by the primitive Kolarian village. The associate joint village is founded by different families for the purpose of mutual

1 See R. G. Basak's illuminating article on Land Sale Documents of Ancient Bengal in Asutosh Silver Jubilee Volumes, Vol. III, Part II. Also B. C. Sen: Some Historical Aspects of the Inscriptions of Bengal, pp. 506 ff.

protection against intruders and is joint only in assuming a united responsibility for taxes. The ancestral joint family village is the only unit resembling a village community. Here all the shares are portions inherited from an original single estate. The heirs hold the property always liable to division, so that there is no communal holding even though a few of the heirs do not partition their estate. Still less does the whole village own the land which is generally rented to tenants, the rents being divided among the descendants of the original lord of the manor. Even when the estate is undivided each heir is actually in possession of a special part and holds it for his own benefit.

According to this analysis the types are severalty and joint villages, not communal types. The most communistic form is the still undivided inheritance of a joint family, but even this is always partible. It is concluded therefore that "the joint family with its original common ownership of land is sufficient to account for all such traces of communistic landownership as we have any record of, and the joint owership of the village had only the form of the modern 'joint village'." This proposition, however, founded on a hypothesis of consanguinity, is applicable to the tribal oligarchies noted above but is too generalised to meet all conditions. During the period under study, patriarchal villages are not the general order of society. It is no exception that families of different castes and professions are sometimes grouped in village settlements and do not shed off their communal tinge withal. Nor is joint ownership by industrial guilds or religious fraternities a rare feature in Indian land system.

Legacies of communal ownership :

Taken together, the available data do not warrant Rhys Davids' conclusion that in Buddhist India the peasants were

only shareholders in communal land without rights of sale, mortgage or bequest of their share.[1] The utmost that can be assumed with safety is that "the old tradition expressed in the Brāhmaṇas.....may have survived in the villages as a communal anti-alienating feeling concerning any disintegration of the basis of their social and economic unity."[2] Although alienation of private land to an outsider may not have been totally unknown this was against custom and law. In the Mahābhārata selling of land is categorically stigmatised as sin (XII. 78. 2.). The Arthaśāstra explicitly rules that holdings (vāstu) may be sold only to kinsmen and neighbours (jñātisāmanta, III. 10). This is the unwritten law in many parts of rural India even today. Consent required of the village community for alienation of private land may have been in some quarters another vestige of village ownership.

Emergence of royal title :

Thus even after the appearance of private ownership communal ownership of the olden days survived side by side in a modified form. The evidence of the Ṛgveda shows that the arable land was held in individual or family ownership while communal ownership was confined generally to the grasslands lying outside the fields. Originally the king's

1 Rhys Davids: *loc. cit.* He is misled by the term *gāmakhetta* and by its analogy with the Buddhist patchwork robe to think that it was "the common property of the village community" divided only for purposes of cultivation (Vin. Texts, Vol. II, pp. 209f. fn. 12).

2 Mrs Rhys Davids: Cambridge History of India, Vol. I, Ch. VIII. Land sale documents of Bengal in the 5th century testify that sale of land was generally accompanied with the condition of non-transferability (nīvīdharma) although exceptions were made in particular cases. See the Dhānāidaha and Dāmodarpur Copperplate Inscriptions of the time of Kumāragupta I.

title to ownership of all land was identified with the communal title, he being the communal head or lord of the *viś*. With the advance of royal power and bifurcation of communal and royal jurisdictions he emerged as a third factor in the land system and developed certain prerogatives over the soil as reflected in the Brāhmaṇas. In the Ṣatapatha Brāhmaṇa it is said that to whomsoever a Kṣatriya with the approval of the people or clan grants a settlement, that is properly given (VII. 1. 1. 8; 1, 73. 4). Evidently public land of the folk or state is meant and not private land of freemen ; and it appears that while gift of such land with tribal consent was customary law, it was sometimes arbitrarily disposed of by the ruler—thus generating a tendency to reduce public lands to king's private estates which is encouraged by all possible means in the Arthaśāstra.

Theory of royal ownership :

This royal pretension hardened into a theory promulgated consciously by a royalist school of lawyers and economists to justify king's right to a sixth of the produce for protection of his subjects ; and this royalist theory attained enough force to mislead foreigners from the East and West who visited India, as well as some modern scholars[1] into a belief that in India all land belonged to the Crown. This royalist theory led to the perverted derivation of *khattiya* (Dn. XXVII. 21) in the Pali canon, "khettaṃ patīti kho khattiyo". The king is entitled to half of ancient hoards and metals underground by reason of his giving protection and of being the master of land—so says Manu (bhūmer adhipatir hi saḥ, VIII. 39) A *śloka* quoted by Bhaṭṭaswāmī in the commentary on the Arthaśāstra (II. 24) goes: "Those who are

1 Vincent Smith: Early History of India, pp. 137 ff.2; J. N. Samaddar: Economic Condition of Ancient India, p. 56.

well-versed in the Śāstras admit that the king is the owner of both land and water and that the householders can exercise their right of ownership over all other things excepting these two."

Rājā bhūmeḥ patirdṛṣṭaḥ śāstrajñai rudakasya ca
Tābhyām anyattu yaddravyaṁ tatra svāmyaṃ kuṭumbinām.[1]

Megasthenes aligned with this tradition when he stated that all India is the property of the Crown and no private person is permitted to own land (Diod. II. 40 ; Str. XV. i. 39-41, 46-49). The Chinese travellers knew no better.

Assertion of royal title :

That this titular right was sometimes sought to be actively asserted is proved by literary tradition of diverse sorts to the effect that the king might lay hand on individual property or real estate in the name of emergency at his sweet will (Jāt. III. 301 f. ; Mbh. III. 2. 39 ; Rām I. 53. 9 f.) without the retribution of the Jewish king who despoiled Nabboth of his vineyard. The Arthaśāstra indicates that the king sometimes exercised the overriding authority and confiscated land (I. 14)[2] though it caused resentment and alarm thus creating a situation inviting to a foreign enemy. In the Rāma story as repeated in the Mahābhārata, Daśaratha claims before Kaikeyī that all property in his domain except that belonging

1 Note that *pati* and *svāmī* appear synonymously. K. P. Jayaswal (Hindu Polity. II, p. 182) translates *pati* as protector and reads *svāmyam* as *sāmyam*, thereby twisting the meaning of the later half to "the people have equality of rights over all other things". While *pati* may be used in the sense of 'protector,' *sāmyam* is not the accepted reading and T. Ganapati Sastri, Shamasastri and Jolly-Schmidt have all adhered to the reading above.

2 *Cf.* the commentary on '*paryādātavya* in II. 9.

to Brāhmaṇas is his and that he can confiscate anybody's wealth:

Dhanaṃ dadāmi kasmād hṛyatāṃ kasya vā punaḥ
Brāhmaṇasvād ihānyatra yatkiñcid vittam asti me
III. 275.23.

This is an echo of the Vedic teaching that the king is owner of all wealth that belongs to any person except Brāhmaṇas (abrāhmaṇānāṃ vittasya svāmī rājeti vaidikam, Mbh. XII. 77.2). This claim has been justified by men learned in the Vedas on the ground that if he cannot rightly seize others' wealth how will he practise virtue ? (na ceddhartavyam anyasya kathaṃ taddharmam ārabhet, XII. 8,26.) Hence "all the wealth of the earth is the Kṣatriya's and no one else's" (dhanaṃ hi kṣatriyasyaiva dvitīyasya na vidyate, XII, 136. 3).

Vṛhaspati claims for the king the right of transferring land in certain circumstances from one individual to another, although such steps should not be taken to override a justified title (XIX. 16 ff.). Even though royal pretension to ownership was not accepted in general it was never disputed that the king had certain transcendent authority over all land which prevented untrammelled disposal or enjoyment of land by private owners. According to Manu land given by the king could not be alienated. Nārada legislates that immovable property held for three generations is incapable of being alienated without the king's sanction. Śātavāhana kings have been seen even to abrogate their gifts substituting new ones, although these gifts are tantamount only to the assignment of revenue. In the Arthaśāstra it is ordained that if disputes about fields are not settled mutually or by elders, these revert to the Crown as well as land of which ownership has been lost (pranaṣṭasvāmikam), *i. .e.*, for which no claimant is forth-

coming (III. 9). Intestate and ownerless land always went to the king (Jāt. 1 398, IV. 485, VI. 348). A vestige of royal right is also found in the Arthaśāstra rule that the king is entitled to a toll on every occasion of sale of a holding by public auction (III. 10).[1]

Nature and scope of royal title :

These evidences bear out neither the theory that private property in land was held inviolable and that all pretension of the Crown to such right was denied in the clearest possible terms,[2] nor the supposition that the king was the owner of the soil only in the sense that he was entitled to a tithe on produce.[3] It is admitted that Medhātithi explains Manu, VIII. 39 in that manner and Megasthenes, Fa-hien and Hiuen-Tsang who were impressed by the prevalence of the royalist theory readily connected with it king's right to levy specific branches of revenue from the land. But the very fiscal term *bhāga* or *rājabhāga* which denotes king's regular and legitimate share as opposed to controversial and additional imposts on land produce, would indicate a partnership of title between the peasant and the king. And there are indigenous proofs that the king's title was given a wider meaning. Else how could it persist on tax-free lands and on villages of which revenues were assigned and which assignment he retained the right to abrogate ? Whether the ownership was actually divided between the

1 A Faridpur Copperplate Inscription of the 6th or 7th century assigns to the king $\frac{1}{8}$ of price according to the law on land sales (dharmaṣaḍbhāgalābhaḥ). See Indian Antiquary, 1910.

2 K. P. Jayaswal: Modern Review, Aug., 1913. For the same view see Hindu Polity, II, pp. 174 ff.: P. N. Banerjea: Public Administration in Ancient India, p. 179.

3 Mrs. Rhys Davids: *loc. cit.*

cultivator and the Crown[1] (the former of course being the major partner in day to day affairs) or both were absolute legal owners on different interpretations of the law, or the king's powers were only regalian rights[2] is only a difference of phraseology. The fact remains that the cultivator's right

1 After examining at length the opposite views, a Mysore scholar follows the conclusion of F. W. Thomas (Camb. Hist., Vol. I, p. 475) that the king was proprietor of land in so far as he was entitled to revenue and could replace the defaulting cultivator from his holding. He adds : "In other words it was a sort of perpetual lease held on the annual performance of an obligation. For all purposes including alienation the lessee is the owner and considers himself as such, and the lessor has the right of only demanding performance of the obligation. But once the lessee fails to do his duty, the lessor's ownership asserts itself." M. H. Gopal : Mauryan Public Finance, p. 62.

Thus according to the author the basis of the land system was a sort of tenancy under the Crown. In support of this deduction he has cited the authority of the Arthaśāstra where it is allowed that the king may confiscate lands from those who do not cultivate them and give them to others (II. 1). But it is overlooked that the instruction is with reference to newly settled or colonised lands which undoubtedly were Crown lands. It may also be noted that although forcible collection is not rare, the eviction of a freeholder and the realisation of revenue by distraint of land which was common in British India is hardly met with in ancient times whether in works of law or in more reliable records of inscriptions or popular literature. (Not so in Southern India. Hultzsch ; South Indian Inscriptions, Vol III, Pl. I, No. 9.) On the other hand, as shown above, the conception of a more extended royal right is in evidence in many quarters.

2 See Ghoshal: *loc. cit.* Strictly regalian would be only such rights as are conferred under Manu's rule that a cultivator who negligently allows his crops to be destroyed is liable to a fine of 10 or 5 times the value of the king's revenue (VIII. 243) and under the Arthaśāstra's injunctions that the king should surpersede or fine negligent cultivators and enforce the cultivation of a second crop in emergencies (V. 2), and that a tax-payer should sell or mortgage his field only to a tax-payer and the owner of a *brahmadeya* to another such beneficiary (III. 10). These rights are logical extensions of the royal right to land revenue.

to his patrimony was limited, the limitation varying in degrees in different places and periods and according to different legal opinions.[1]

Crown lands :

Apart from the ill-defined and general rights of the king over all land he had large tracts—fallow, cultivable or rich in natural resources—held directly under his ownership, from which he made his charitable or religious bequests.[2] Apparently with the rise of territorial monarchy tribal land was converted to king's land. The supposition is strengthened by the older practice of obtaining tribal consent in land bequests.[3] The king had to foot the bill for administration and these lands were the mainstay of the treasury since the income from land revenue was somewhat uncertain. From the Arthaśāstra's advice regarding colonisation of waste land (janapadaniveśaḥ) it would appear that virgin and unclaimed land was king's property (II. 1). It is ordained that such reclaimed land shall be given to tax-payers only for life

1 R. G. Basak (*loc. cit.*) is inclined to believe that there was a gradual advance from popular ownership of earlier days to royal ownership in later times, *i.e.*, from about the 5th century onwards. But such a generalisation appears to be too risky in view of the discordant note of source materials and the assertion of royal claim seen as early as in the Brāhmaṇas and the Pali canon and in a more outspoken manner in the Arthaśāstra and in the Śāntiparva Mahābhārata.

2 Like the king the Queen Consort and the Queen Mother also had their own estates out of which gifts or assignments of revenue could be made (Aśoka. M.P.E., IV; Hathigumpha Inscription of Khāravela's Chief Queen). Epigraphic records to this effect abound from a later time. On the occasion of Rāma's consecration 1,000 villages were assigned to Queen Kauśalyā for the maintenance of her refugees (Rām. II. 31. 22).

3 See *Supra*, p. 55.

(karadebhyaḥ kṛtakṣetrāṇyaikapuruṣikāṇi prayacchet) or during the time they may take to prepare them for cultivation: if cultivation is neglected, such land shall be taken and given to others. Besides getting taxes, the king is to exercise his right of ownership in these lands with regard to fishing, ferrying and trading in vegetables in reservoirs or lakes (matsyaplava harītapaṇṇānāṃ setusu rājā svāmyaṃ gacchet). From these lands the most productive plots may be given to performers of sacrifices, spiritual guides, priests and those learned in the Vedas as *brahmadeya* lands exempted from taxes and fines (adaṇḍakarāṇi). Government officials shall also be endowed with lands which they shall have no right to alienate by sale or mortgage (vikrayādhānavarjjaṃ).

The Arthaśāstra's testimony, supplemented by available sources is that the Crown lands consisted of (1) homestead and cultivated land reverting to Crown by various processes, (2) unoccupied waste, both fallow and cultivable, recovered for settlement or colonisation, (3) reserve forests, (4) mines including salt-centres which were government monopoly (*cf.* Mbh. XII. 69. 29; Karle and Nasik Cave Ins.; Pliny. XXXI. 7. 39)[1], (5) treasure trove or *nidhi*, (6) waters.

Partnership of rights and title between Crown, community and cultivator in ordinary land excepting land under sole authority of Crown and community :

Thus the king was in absolute ownership of a large part of the soil. Of the rest he was partially the titular owner

1 The growth of states and empires hastened the conversion of mines and forests into royal domains. "In the days of small states these belonged to nobody, but when these were conquered by the Magadha king all intervening territories in addition to forests and other unclaimable natural sources passed to the dominion of the conqueror."—N. C. Banerji, Economic Life and Progress in Ancient India, Vol. I, p. 283.

and to some extent real. Roads and parks, irrigation tanks and canals, the village pond, the moot-hall and pasture land were public property of the village. Of public ownership of cultivated land evidences are more meagre but that does not rule out the possibility of its existence. Outside the royal or communal lands the peasant freeholder enjoyed his patrimony hereditarily with rights of alienation by gift, sale or mortgage subject to an elastic royal right of interference which, however, did not go unresented when it was extended to the right of confiscation. The recipients of royal land except those of the *brahmadeya* had a still more limited title over their plot. They held land under the king's sufferance and were merely tenants-at-will. Individual ownership was also diluted with a certain measure of communal oversight in parts where the feeling of old tribal collectivism survived. Outside these categories fell the land dedicated to the ownership of gods or temples as well as large tracts of no man's land and *terra incognita* consisting mostly of mountains and forests penetrated only by robbers, caravans and beasts and by herdsmen only in the fringe.[1]

* * * *

Big and small estates :

While at the advent of Buddhism, rural economy of India "was based chiefly on a system of village communities of landowners,"[2] the primitive equality in distribution of landed wealth was gradually dissipated with the slackening of communal control and ascendancy of individual rights. From the

1 The Arthaśāstra indicates that pastures, plains and forests (vivītamālavana) are not subject to individual ownership (III. 10). According to Uśanas places of pilgrimage were also nobody's property along with hills and forests (V. 16).

2 Mrs. Rhys Davids : *loc. cit.*

time of Buddha and even earlier, we come across isolated large estates side by side with small decaying farms. In the *suttas*, the Brāhmaṇa Kāsibhāradvāja is found working his extensive field with 500 ploughs and a gang of hirelings (Sut. I. 4 ; *cf.* Sn. I. 171 ; Jat. II. 181). In the Suvaṇṇa-kakkaṭa Jātaka, Bodhisatta "settled down and worked 1,000 *karīsas*[1] in a district of Magadha to the northeast of the village" Sālindiya—his native village on the east of Rājagaha (III. 293). Estates of the same measure, worked by means of bondsmen and hired labour hands, are seen in other Jātaka stories (IV. 276 f., 281). Here the landowner with a wealth of 800 millions is a familiar figure (asitikoṭivibhavo kuṭumbiko, IV. 370, etc.), typical of whom is Sujāta of Barāṇasi, who lodges in his park and ministers to 500 ascetics (V. 465). Such big farmers are also termed *gahapati* in Pāli literature, literally the *paterfamilias*, sometimes only a substitute for the generic *Vaiśya* but actually indicating the agricultural magnate as the *seṭṭhi* conveyed the industrial magnate.[2] The Brāhmaṇa *gahapati* frequently appears in the Jātakas as owner of property worth 800 millions. It would perhaps be no wild presumption that the gifts of *brahmadeya* or rentfree land enjoined by priesthood on temporal authority (Āpast. II. 10. 26, 1 ; Manu, VII. 83 ff.; Yāj. I. 314 : Mbh. XII. 343. 18 ; XIII. 62), sometimes deviated from the avowed purpose of maintaining an order dedicated to religious service (Dn. XII. i. 1 ; Mn. II. 164) and conduced to the concentration of land in the hands of secular Brāhmaṇas who are so prominent by their landed wealth in

1 According to Childers' Pali Dictionary, S. V. *ammaṇam* a *karīsa* would be about 8 acres.

2 Of course agricultural and industrial pursuits were very often combined by these lords and a *seṭṭhi-gahapati* like Anāthapiṇḍika is no rarity.

folk literature although in didactic pieces cultivation of land is assigned exclusively to Vaiśyas.

Agricultural indebtedness :

Side by side with the *gahapati* or *kuṭumbika* or the *Vaiśya* according to Sanskrit nomenclature is observed the toiling cultivator struggling against starvation, managing his plot singlehanded or with his sons only (Jāt. I. 277, II. 165, III. 162, IV. 167, VI. 364 ; Rām. II. 32. 30; Mbh. XII. 177. 5 ff.; Jacobi: J.S. II. 347). The Gāmaṇicanda Jātaka offers the case of a tiller who had to run the plough by borrowing a neighbour's team of oxen (II.300). This petty cultivator is indicated by the word *kināsa* in Sanskrit works as counterpart of the big *Vaiśya* or *kuṭumbī*. The Jātaka evidences throw some light on an important aspect of the relation between these two divergent types of farmers. A *kuṭumbika* is often seen to make a journey on cart to distant villages for collecting debts, sometimes accompained by his wife (II. 341, III. 107, IV.45). In one case he is seen attaching a cart of a defaulter in satisfaction for what was due to him (III. 66). It appears that the big farmer carried on a lucrative money-lending business in villages not always without abuse. It is the small farmer who ran into debt in times of scarcity and sometimes losing his plot whether under extortion or from want turned a destitute vagrant and offered himself for hire in the rich man's estate.[1]

Coexistence of big and small estates, no privilege based on land:

But whatever might be the inequality of landed property between the different classes of peasants it did not promote

1 See *infra*, Bk. VI, Ch. II. *Cf.*, the plea of C. V. Vaidya on the effects of widespread usury upon the ryot class. Epic India, p. 219.

the isolation of the gentry from cultivation of land and the decadence of agriculture which is seen under British rule. No stigma was attached to labour. The Indian yeomanry put their hand to the plough along with their men as much as their less fortunate brethren. They were not attracted by the luxuries of the town to leave their prosperous farms to ruins under the care of indifferent agents. The small farmer as well was never squeezed out of existence under the remorseless pressure of a superior economic caste standing in haughty segregation. Nor did large estates carry with them any political or social privileges except those naturally conferred by wealth. "There was among Indo-Aryans little of the feudal tie between land and lord with lordship over the land-tillers which made broad acres a basis for nobility in the West."[1] It is for this reason that landed wealth in ancient India never developed into the exorbitant power and influence of the Roman patriciate, the French baronage and the Muslim Jaigirdar. Legally the big landowner and the small husbandman stood on an equal footing and, over each at the top, the king retained a residual power which was both legal and real.

1 Mrs. Rhys Davids : *loc cit.*

CHAPTER III

THE VILLAGE LORD

The *Gāmabhojaka*. Recipient of revenue; absentee lord. Origin and evolution; benefits without responsibility. Perquisites. Judicial function. Powers. Democratic representative or bureaucratic agent? Transition from popular headship to leisurely landlordism or official hierarchy.

The gāmabhojaka :

Between the king and the peasant there intervened in Indian land system a powerful class of intermediaries somewhat analogous to but far from identical with the landlords of later times. The Jātakas contain meaningful references on the duties and powers of the *gāmabhojaka* who played a most important part in India's rural economy. Other Pali works and the Arthaśāstra mention *en passim* the *gāmabhojaka*, the *gāmika* and the *gāmaṇi* presumably referring to the same figure. These few but weighty remarks, pieced together, give some positive suggestions which ill accord with the theory given currency in many quarters that he was a typical product of the free institutions and corporate life of the ancient village system.

Recipient of revenue, absentee lord :

The village lord was not the owner of the soil and in this respect he differed from the Zemindar. He was authorised to enjoy the revenues to which the king was entitled and which accordingly he could delegate to any person of his choice. Assignment of revenue was accompanied with necessary powers. The lord was neither an administrative official of the village nor a communal head. He frequently appears in

the rôle of an absentee lord who dwells in a town not necessarily in close proximity and periodically visits his *bhogagāma*[1]. In the *paccupannavatthus* of the Jātakas Anāthapiṇḍika often goes to supervise the affairs of his village leaving his house at Sāvatthi (I. 365, 412, 441). Sometimes the absentee lord is preoccupied with mercantile pursuits and the village is a sinecure where he goes only to realise his dues and debts traversing a long journey on cart (I. 413, V. 164).

Growth of the institution; revenues without administrative functions:

Wherefrom were these lordships derived and what was their origin? The earliest trace of this type of landlord villages is found in the Taittirīya Saṃhitā where it is told in connection with the performance of certain sacrifices by a person hankering for a village (grāmakāma) how the gods concerned 'bestow him creatures led by the noses' (II. 1. 1. 2), how they 'present his relations to him and make the folk dependent on him' (II. 1. 3. 2) and how they enable him to hold the mind of his peers (II. 3. 9. 2). These cryptic expressions mean, if anything, that the village lordships were acquired in the first instance by individual exertion and afterwards received the seal of royal confirmation. The Jātakas belie throughout the tradition embodied in the Śatapatha Brāhmaṇa (XIII. 7. 15) and recalled in the Mahābhārata (XIII. 154. 1 ff) that land must not be given away even on

1 The rendering of *bhogagāma* as Zemindary in Cowell's translation of the Jātakas is misleading. There is a gulf of difference between the modern and medieval zemindary estates and the villages assigned for *bhoga* or *bhojana* apart from the fundamental point of proprietorship, as shown at the beginning of the next chapter. Nor is the word 'headman' an apt rendering of *bhojaka*. The *patel* and *lambardar* are as distant from the *bhojaka* as is the zemindar, judged by their respective functions and capacities.

the plea of a sacrificial fee. In the Epics the earth no longer reprimands kings for her transfer and even wants to go over to the Brāhmaṇas. In the Jātaka tales recipients of royal bounties are not always Brāhmaṇas and the donations of villages are almost invariably accompanied by the conventional phrase "yielding a hundred thousand a year" (satasahassutthānaka, I. 420, II. 403, III. 229, V. 350, 371). In the Mahāummagga Jātaka, Mahosadha on his way from Uttarapañcāla to Videha sends men to receive the revenue of the eighty Kāsi villages which king Cūḷaṇī had given him (VI. 463). On these and similar occasions the grantee, if he is a town-dweller, appears to be out of touch with village administration except so far as it is necessary for collection of revenue. It is likely that he obtained not the administration[1]

1 In the Dīgha and Majjhima nikāyas there is a stock passage which seems to indicate *prima facie* that the royal grants to the *mahāsālas* carried with them administrative power. "Now at that time so and so the Brāhmaṇa was dwelling at such and such place, a place teeming with life with much grassland and woodland and water and corn (sattussadaṃ satiṇakaṭṭhodakaṃ sadhāññaṃ), on a royal domain granted him by so and so the king as a royal gift *with power over it as if he were the king*" (rājabhoggaṃ raññā dinnaṃ rājadāyaṃ brahmadeyyaṃ Dn. III. i. 1, IV. i. 1, XII. i. 1, XXIII. 1; Mn. II. 164). The 'fief' (?) from the description seems to be not a settled village but a large tract of irrigated and cultivated soil with adjoining fenland and pasture fit for animal farming; and if Buddhaghosa's alternative explanation of 'rājabhoggaṃ' as 'what is for king's enjoyment' is accepted, the concluding phrase permits the interpretation that the usufructuary right and titular ownership of the king over the Crown land were transferred to the assignee along with the land. The analogy between Lohicca's domain at Sālavatikā and Pasenadi's kingdom of Kāsi and Kosala is drawn upon the usufructuary right and ownership which are common to both. The story of the Majjhima II. 164 in no way indicates that Cankī was master of the village of Opasāda and its Brāhmaṇa community, but that he was only the owner of a large plot of land. The testimony of the Arthaśāstra as well implies that *brahmadeya*

but the revenues of the village, *i. e.*, benefits without responsibility; and as the big money-lender he may have asserted his furtive power still further in his rural preserves not always with happy results. Instances of pious men like Anāthapiṇḍika are fortuitous and there is little reason to believe that his charitable acts were dictated by any customary obligation implicit in the rights.

Perquisites :

The village lord is not necessarily—nay he is rarely—the mainspring of the *gāma*'s corporate life and collectivist enterprise. In this respect he differs from the *jeṭṭhaka*s of the industrial *gāma*s or of the craft-guilds. In the Kulāvaka Jātaka Bodhisatta is the moving spirit of the sturdy *gāma* life and the *bhojaka* is put to the thought "when these men used to get drunk and commit murder and so forth, I used to make a lot of money out of them not only in the price of their drinks but also in the fines and dues they paid" (ahaṃ pubbe etesu suraṃ pivantesu paṇātipātādīni karontesu cāṭikahāpaṇa divasena c'eva daṇḍabalivasena ca dhanaṃ labhāmi); and he brought a complaint to the king on false charges against Bodhisatta and his flock (I. 199 ff.).

The lord's justice :

These few words read with the allusion to a pious lord in another place who stopped the sale of strong drink in his estate (IV. 115) lead to a presumption that the *bhojaka* either himself maintained breweries in the village, those crime-centres and plague-spots of rural life, or he enjoyed the excise dues thereon whether within or outside the revenue

gifts were gifts of rent-free *lands* out of king's estates and not of *villages* carrying for the donees revenues alone; and there is no ground to associate political and administrative responsiblity with these lands.

transferred by royal assignment. The fines undoubtedly went to his pocket. For he adjudicated rural cases. He is seen to try a dispute and fine a fisherman's wife and then to tie her up and to beat her to realise the fine (I. 483). To a question why a certain *bhojaka* had fallen from better days a king replies: "That village lord used once to deal justice evenhandedly, so that men were pleased and delighted with him; and in their delight they gave him many presents (bahupaṇṇākāram āhariṃsu). This is what made him handsome, rich and honoured. Now he loves to take bribes (lañcavittako hutvā), and his judgment is not fair; so he is poor, miserable and jaundiced. If he judges once again with righteousness he will be again as he was before. He knows not that there are kings in the land. Tell him that he must use justice in giving judgment." (dhammena aṭṭaṃ vinicchinituṃ, II. 309).

A sharp demarcation lies between the legitimate dues and the illegal gratifications of the *bhojaka*. But a judge who can accept presents from litigants without any sense of wrong must be prone to count these tips among his dues as much as the judicial fines and to allow his decisions to be bought all the more when these are not assisted by a jury or a folk-moot of any sort[1] and when there appears to have been no

1 The village affairs discussed in the public hall bore on civic amenities, cooperative labour, state of crops, etc., but probably they did not as often include judicial matters except perhaps in the republics and a few villages. Possibly, in some self-governing villages the assemblies had a parallel jurisdiction although it is difficult to be demarcated from the *bhojaka's* (see *supra*, p. 54 and *infra*, p. 79). In the foregoing passages the *bhojaka*'s justice is undivided. The Arthśāstra ordinance of a fine of 24 *paṇa*s for a *bhojaka* who expels from a village anyone except a thief and an adulterer (III. 10). leads to the same presumption. There is no sufficient data for the assumption that in Maurya times he carried on

appeal against them. The vaunted prerogative of interference claimed by the king was certainly no common occurrence in those days when the centre lacked the administrative machinery and easy means of communication to extend its hand very far.[1] It was asserted only on grave issues or when the king's revenue was at stake. Else it would be prudent to let the sleeping dogs lie.

Powers :

Without doubt the *gāmabhojaka* was a big man of opulence and position whose wrongs could not be held in check by any lesser authority than the king. He (gāmasāmiko) could assemble all the villagers by an order at a short notice (sabbe sannupatantūti) by means of a crier (āṇāpako, Mil. 147). In the Kulāvaka Jātaka referred to above, we find him for once heavily chastised by the king for falsely bringing grave charges of treason against the whole body of villagers. He has power to prohibit slaughter of animals for sacrifice within his area (IV, 115). He dares to commit adultery with a *gahapati*'s wife and when caught and thrashed by the husband, none

the village administration and judicial business in consultation with the *grāmavṛddhas* or elders. For this view see Thomas : Camb Hist., Vol. I; Raychaudhuri: Political History of Ancient India, 5th. Ed., p. 292.

1 The evidences of the Kulāvaka Jātaka and of the Gāmaṇicanda Jātaka just quoted, lead a scholar to think that "administration of justice was one of the essential links that bound the scattered villages to the central organisation of the state" and that in this matter final authority rested with the king. He relies further on the custom referred to in the latter by which anyone could challenge a disputant to come to the king's officer by picking up a potsherd or stone. But the village concerned is not a *bhogagāma*. Such central control in normal administration of justice in rural areas under influential lords goes against the cumulative evidence of the Jātakas and the possibilities of the times. See B. C. Sen : Journal of the Department of Letters, C. U., Vol. XX, p. 107.

other than Bodhisatta would have ventured on such short shrifts for 'damages', expostulates saying that he is the village lord (II. 135). He is a greedy fellow always after the belongings of his neighbours (Sn. I. 60). Elsewhere he conspires with brigands to carry off the taxes collected for the king: and here for the second time we see him feel the heavy hand of an overlord (I. 354).

Democratic representative or bureaucratic agent ?

The last instance furnishes a valuable clue to the clarification of the *bhojaka*'s position. Here he is designated as an *amacca* or official appointed by the king and entrusted with the collection of his revenue from certain villages. Then how is he a *gāmabhojaka* or devourer of village revenues ? The probable answer is that he is the *bhojaka* of a village which is given by the king for his enjoyment as remuneration for his office. This is in agreement with the injunctions of the Arthaśāstra, of Manu and of the Mahābhārata. In the first, grants of land to king's officers without the right of transfer form part of the revenue administration (II. 1) while the other two lay down that the lord of 10 villages is to be remunerated with 1 *kula* of land (land cultivable with 12 oxen), of 20 villages with 5 *kulas*, of 100 villages with a village and of 1,000 villages with a townlet (śākhānagara) (Manu, VII. 119 : Mbh. XII. 87.6-9). The strength of a solitary evidence may not suffice to allow the conclusion that the *gāmabhojaka* of the Jātaka stories bore this uniform character. The position of the royal chaplain (purohita) and of the fiscal adviser (mahāseṭṭhi) like Anāthapiṇḍika, whom we often find in enjoyment of *bhogagāmas* (III, 105 ; IV 473, 484 ; VI. 463) was undoubtedly analogous. As for other cases, whether he was king's nominee or elected by the rural constituency or whether he held a

hereditary post it is impossible to ascertain beyond dispute. While the Jātakas and the Pali canon bear no trace of hereditary landlordship in later inscriptions lands and villages are often made over as hereditary bequest. In the Mahāsutasoma Jātaka "lordship of a single village" (ekagāmabhojanaṃ) is spoken of along with the "office of commander-in-chief and similar posts" (senāpatiṭṭhānādīni, V, 484), the suggestion being that the lord was a king's officer. There is no example in the birth-stories or any contemporary evidence to warrant the conclusion that he was the "elected chief of the village community".[1] That he stood in certain relations with the king is attested by many passages (IV. 310). The *gāmaṇi* is much concerned with the king's favour or disfavour (IV. 310). In the Cullavagga the *gāmaṇi* Maṇicūlaka is in close touch with royal attendants in the Chamber (XII. 1.4; An. IV. 326). As noticed above he could seek justice in king's court whenever there was trouble in his affairs. It is probable that he discharged certain vague undefined functions as an intermediary between the king and the freeholders.

1 For this view see Fick: Die Sociale Gliederung im Nordöstlichen Indien zu Buddhas Ziet, pp. 105 f.; *cf.* Rhys Davids, "There were no landlords. And the great mass of the people were well-to-do peasantry, or handicraftsmen with land of their own, both classes ruled over by *local headmen of their own selection*" (Buddhist India, p. 102). In the case of the latter there are positive evidences that the position of the *gāmajeṭṭhaka* in industrial villages was hereditary (*infra*, Book II. Ch. V). A. S. Altekar draws attention to a Mathurā Inscription of the first century A. D. (Ep. In. I. 11) where a lady is mentioned as wife and daughter-in-law of two *grāmikas*,—a fact possible only when the office is hereditary. While the succession of a son on the retirement of an incumbent is in no way extraordinary, this solitary instance cannot be accepted as pointing to a general rule. The Jātakas nowhere testify to the "hereditary office" propounded by the author. See A History of Village Communities in Western India, p. XIV.

Thus the village lord is *persona grata* with the king as with the villagers. He is apparently the sole and final judge of the small village causes when he is domiciled within his locality. The king's revenue is assigned to him by royal writ. The judicial fees and fines and the returns of liquor houses or excise dues are among his perquisites to which bribes and presents form a lucrative addition. He is the agricultural bank *par excellence.* He may have had other incomes lawful or otherwise,[1] for his assets are in some cases assessed at 800 millions. In one of these he is the king's chaplain and hoards up the sum apart from his office (purohitaṭṭhānena saddhim asitikoṭidhanaṃ chaddetvā (IV. 484), presumably from the *bhogagāma* which he visits from time to time (IV. 473). The multimillionaire Anāthapiṇḍika too often beats the record and regales thousands of ascetics in his park. Given due allowance for the tendency of folktales towards exaggeration, these figures show that the village lord might occasionally rise to the topmost rung of the economic ladder and constitute a plutocracy with the Brāhmaṇa and *seṭṭhi* magnates who basked in the sunshine of court and whose wealth is often estimated in the same fabulous figures.

Whether absorbed in the luxuries and money transactions of urban life or settled in his rural preserve, the lord has little to do with the communal life of the village and he owes no responsibility either to the king or to a village council for rural welfare. In the numerous famine scenes we invariably

1 The terms 'gāmabhojana' and 'bhogagāma' suggest not usufructuary title over land to the exclusion of cultivators but enjoyment of all possible revenue derivable from the village. *Cf.* "Those (articles) which the villagers ought to furnish daily to the king, such as food, drink and fuel, the lord of one village shall obtain." Manu, VII. 118.

miss him. Once only he is found giving an old ox to hungry cultivators under the grip of scarcity on condition of repayment after two months from the next harvest (II. 135) and this must be regarded as part of his ordinary lending business rather than of a benevolent distribution of dole.[1]

From peoples' man to official or leisured grandee :

In the Vedic texts village headmen (grāmaṇi, grāmika) are styled *Rājakartṛ* and *Ratnin* aiding in the consecration of the king among certain other functionaries and are consulted by the king along with his ministers. In the Bṛhadāraṇyaka Upaniṣad the king is received by *gramaṇis* along with *ugras*, *pratyenasa*s and *sūta*s who keep the guest house ready with food and drink (4.3. 37). The Mahāvagga gives the important reference that the *gāmika*s of Bimbisāra, 80,000 in number, used to be summoned in a great assembly (V. 1. 3.). During the days when kingship had not yet outgrown the tribal stage, the village chiefs were communal representatives and exerted a wholesome check on royal absolutism. But later records which synchronise with the growth of a centralised monarchy fortified by a bureaucratic machine strike a different note. The periodical assemblies of *gāmika*s seem to have fallen into disuse with the rise of Maurya imperialism. They gradually sank down from the headship of autonomous villages to sleeping lords with irresponsible powers and vested privileges or were transformed into king's officers and absorbed into an

1 The Arthaśāstra exhorts villagers to accompany the *grāmika* by turns whenever he "has to travel on account of any business of the village" (grāmārthena grāmikaṃ vrajantam upavāsāḥ paryāyeṇā 'nugaccheyuḥ, III. 10). Nothing can be inferred either way from this vague statement. From evidences already adduced it may be argued *a fortiori* that this business was personal (*i.e.*, related to his own income) rather than corporate and administrative.

official hierarchy. The Jātaka stories exhibit them in both these colours. Even as early as in the Upaniṣads the king is found appointing *adhikṛtas* over *grāmas* (Praśna-Up. III. 4); such appointment tallies with the conception of civil polity and paramount sovereignty implied in the honorific *Samrāṭ*. The *gāmikas* of Bimbisāra, be they elected or nominated, took orders and instructions from a controlling monarch (diṭṭhadhammike atthe anusāsitā). In the Arthaśāstra the *grāmikas* are subordinates to the *gopas*, *sthānikas* and still higher officers. The bureaucratic system is perfected in the law-codes (Āpast. II. 26.4.5; Viṣ. III 7-15; Yāj I. 337) and Manu lays down a detailed official gradation. The *grāmikas* appointed by the king are not to take cognizance of crimes and decide according to their free will but report all cases to lords of ten villages, they in turn to the next superior officers and so on (VII. 115-117; Mbh. XII. 87. 3 f.). In the Śukranīti-sāra the chief is a king's deputy (II. 343) intoxicated by drinking the vanity of office (II. 227). In the Śaka and Gupta inscriptions as well, side by side with prolific land charters issued to royal favourites without any corresponding service derived in return, the *grāmikas*, *bhojakas*, etc., are found fitted into an elaborate framework of civil administration. Thus the upholder of popular rights and duties who loomed large in Vedic and early Buddhist social economy is no longer the bulwark of free village corporations and fades out into a leisurely lord or is stereotyped into an official automaton.

CHAPTER IV

ASSOCIATE LIFE IN THE GĀMA

The soul of village life. Public works, the *sāla*, collective charity, educational endowments, religious bequests, economic cooperation. Industrial villages. Communal amusement—the *samāja*. From tribal autonomy to corporation and democracy.

Taking into consideration his powers and functions from every point of view, the advent of the *bhojaka* whether as an official or as a non-official cannot be held to have been a welcome feature in India's village economy. But she was spared the baneful conclusion of the feudal order—exaltation of landlords into a parasitic nobility and reduction of peasants to serfdom. The *bhojaka* had no proprietory rights over land, no seigniorial rights conferred with royal deeds, the so-called rights of confiscation, eviction, escheat, etc., or of arbitrary levies like the *bovine, banalité, péage, gabelle*, monopoly of the dovecote and so on.[1] The peasantry lost none of their rights on their freehold under a royal charter: they only gave the tithe due to the king to another man. Nor probably were their estates liable to summary sale or attachment for arrears of revenue. The periodical oppression and illegal exactions which they had to bear with could not reach the inner spring of rural life and sap its vitality. It lay deeper in the healthy spirit fostered by the tribal community, of discipline, fellowship, liberty and public conscience among the villagers which outlived the chequered career of monarchical despotism and bureaucratic imperialism.

1 Inscriptions show that the immunities of royal assignments were much extended in later time.

Public works :

The working of the communal idea which kept the countryside pulsating with the exuberance of life is seen in Vedic literature embedded in the tribal feeling of the *viś*. The Jātakas, the earlier Smṛtis and the Arthaśāstra reflect the further stage of its growth and interesting characteristics. It seems that the sweeping influence of Buddhism with its principles of liberty and equality gave a powerful impetus to the ideal of communal harmony and cooperation. The graphic and elaborate details of the Kulāvaka Jātaka are more than a utopia of priestly scheme. The scene is a Magadha village of 300 families or *kulas*:

"One day the men were standing in the middle of the village transacting its business. They too doing good works along with him (Bodhisatta), used to get up early and emerge with razors, axes and clubs in their hand. With their clubs they rolled out of their way all stones lying on the four highways and other roads of the village; they cut down the trees that would strike against the axles of cars; they smoothed the rough places, built causeways, dug water-tanks, built a hall; they showed charity and kept the Commandments."

"Te ca timsa kulamanussā ekadivasaṃ gāmamajjhe ṭhatvā gāmakammaṃ karonti.—Te pi ten'eva saddhiṃ puññāni karontā kāless'eva vuṭṭhāya vāsipharasumusalahatthā catumahāpathādīsu musalena pāsāṇe ubbattetvā pavattenti yānānam akkhapaṭighātarukkhe haranti visamaṃ samaṃ karonti setum attharanti pokharaṇiyo khaṇanti sālam karonti dānāni denti sīlam rakkhanti" (I. 199).

This observance of moral law and civic duties discharged under communal guidance and discipline are the vaunted spell, safeguard and strength of the villagers, *—manto ca parittañ ca vaddhin cā'ti* (200).

They are given by the king the village, the elephant and the *bhojaka* who brought false charges against them as slave for reward. Then they built a large hall at the meeting of the four highways. Even women are very keen to participate in this corporate enterprise.

"They had benches put up and jars of water set inside, providing also a constant supply of boiled rice. Round the hall they built a wall with a gate, strewing the space inside the wall with sand and planting a row of fan-palms outside."

"āsanaphalakāni santharitvā pānīyacātiyo ṭhapetvā yagubhattaṃ nibandhiṃsu sālam pākāreṇa parikkhipitvā dvāraṃ yojetvā anto pākāre vālukam āharitvā bahi pākāre tālapantiṃ ropesuṃ."[1] (201).

The hall was supplemented with the construction of a flower and fruit garden and a lotus-pond.

The Mahāummagga Jātaka hints at the manifold purpose served by the public hall or *sāla*, the throbbing heart centre of the village organism. Bodhisatta as a boy collects subscriptions from the playmates and gets a hall built in the eastern suburbs (*pācinayavamajjhaka*—later referred to as a *gāma*) of Mithilā with special apartments for ordinary strangers, destitute men, destitute women, stranger Buddhist monks and Brahmaṇas, foreign merchants with their wives, all these with doors opening outside (vahimukhāni). A public place for sports (kīḷamaṇḍalam), a court of justice (vinicchayam), a convocation hall (dhammasabham), beautiful pictures, "a tank with 1,000 bends in the bank and 100 bathing ghats" (sahassavaṃkaṃ satatitthaṃ pokharaṇiṃ) covered with lotuses

1 *Cf.* the rest house of Pāṭaligāma where the *upāsaka*s invited Buddha and his fraternity and strewed its floor with sand, placed seats in it, set up a waterpot and fixed an oil lamp (āvasathāgāraṃ santharitvā āsanāni paññapetvā udakamaṇikaṃ patiṭṭhapetvā telapadīpaṃ āropetvā, Mv. VI. 28.2 ; Ud. VIII. 6.)

and bounded by a park, and an alms-house (dānabhattam) gave completion to the building scheme (VI. 333).

This is only the execution of the corporate rural ideal on a larger and perfected scale. The village *sāla* is thus a shelter for the stranded, an asylum for foreign visitors, an inn for travellers.[1] For the villagers themselves, it is the centre for recreation, administrative affairs and religious discussion. Last but not the least, here is organised the collective charity.

Collective charity :

For this specific purpose the villagers and townsfolk are often seen to combine. According to the *paccupannavatthu* of the Susīma Jātaka, the people of Sāvatthi were used to practise charity by isolated families or by grouping together into associations (gaṇabandhanena vahu ekato hutvā) or by clubbing together into streets (vīthisabhāgena) or by collection of subscriptions from among all the citizens (sakalanagaravāsino chandakaṃ saṃharitvā, II 45). The Kalpadruma Avadāna attests how the magnates of Sāvatthi gave a united front against the incursion of famine on their less fortunate brethren. The people of Rājagaha followed suit and used to combine for purpose of almsgiving. The subscriptions were raised in money or in kind. Here, as in Sāvatthi, apparently this was the general custom in all self-governing areas, on any dispute a division was called and the voice of the majority prevailed (II. 196). This is the practice of the *yebhuyyasikā* or decision by majority vote which was borrowed and laid down by Buddha in the Vinaya Piṭaka

1 *Cf.* the *āvasathāgāra* or village rest-house in Mv. VI. 28.2. and Dn. XVI. i. 20. Here rice-meal is supplied to travellers—Vin. pātimokkha, pācittiya, 31. These 'chaultries' were not less frequently built by private munificence.

(Cv. IV. 9. 14. 24) for the procedure of the assembly of the Saṃgha.

Educational establishments :

Analogous to the charitable works were the educational establishments maintained by the individual or collective aid of the people The Losaka Jātaka narrates that Bodhisatta ran an academy of 500 poor Brāhmaṇas at Barāṇasi and the townsfolk supplied meals to poor lads and had them taught free (tadā bārāṇasīvāsino duggatānaṃ pāribbayaṃ datvā sippaṃ sikkhāpenti), The villagers offer a miniature replica of the municipal school : for Mittavindaka is paid by the residents of a *paccantagāma* to teach them what was true doctrine and what was false (presumably on the strength of his reference as a pupil of Bodhisatta) and given a hut to live in at the entrance of the village (gāmavāsino 'amhākam susāsanaṃ dussāsanam āroceyyāsiti 'mittavindakassa bhatim datvā taṃ gāmadvāre kuṭikāya vasāpesum). But Mittavindaka's evil star brought the king's wrath on the village and the villagers after holding a conference drove him out with blows (I. 239). Very similarly another group of villagers paid a logician (takka-paṇḍita), and settled him at village entrance in a hut to teach them lucky and unlucky seasons (suyuttaṃ duyuttaṃ, I. 296). In other places villagers give their quota in the form of eatables for the upkeep of a sylvan school in the vicinity (III. 537) or for the maintenance of a learned preceptor (II. 72). Individual villagers (IV. 391) or houses or *kulas* (I. 318) sometimes treated teachers and students to banquets.

Religious bequests:

Closely akin to the charitable and educational works, the religious bequests were another channel in which the associate enterprise of villagers found vent and expression. In one

case we see them putting off under one pretext or another the construction of a cell for a Brother who had paid for it (I. 215). But inscriptions on the votive offerings of the Sāñchi Topes and elsewhere are living illustrations of this side of village activity. Here we have—

Vejajasa gāmasa dānam (Tope I, No 17)
Padukulikāya gāmasa dānam (II. 1)
Asvavatiya gāmasa dānam (I. 215)
Chunivamoragiri gāmasa dānam (II. 49)
Nāsikakanaṃ Dambhikagāmasa dānam
(Nasik Cave In. 20 VI)[1]

rendered by Senart as 'gift of the village of Dambhika of the Nasik people' and by Bhagwanlal Indraji as 'gift of a village by inhabitants of Nasik'.

Gifts were also made from among restricted associations, committees (*goṭhi*) or families (*kula*):

Gift of the Bauddha *goṭhi* from Dhamavaḍhanana (I. 25,26)
„ „ Barulamisa *goṭhi* from Vedisa (I. 51)
„ „ Vākiliyas from Ujjein (27)
„ „ kula of Dhamutara (I. 276)
„ „ sons of Disāgiri from Puruvida (I. 290)
„ „—Subhagā, Pusā, Nāgadata, Sagharakhita, inhabitants of Kuraghara (1.375).[1]

That the villagers did not content themselves by merely making over endowments and setting up temples is proved by the significant institution of the *goṣṭhī* which is explained by Bühler as a Committee of trustees in charge of a temple or of charitable institutions. Here the people sent their representatives to manage their endowments and guide their religious observances.[2]

1 For further instances of this nature see Amarāvati inscriptions, E. I. XV. 13. Also Bārhut,—karahakaṭa nigamasa dānaṃ.
2 Bhaṭṭiprolu Inscriptions.

The entertainment of Buddha with his Fraternity by the faithful which became a general custom in the Gangetic provinces was performed sometimes by individuals, sometimes by families, sometimes by *gāmas* and even whole clans. A single family might make a house to house collection of food materials (Jāt. II. 85; Mv. VI. 37) or all the villagers might come forward (*ibid.*, 28 2; 33. 1). The Mallas of Kusināra even make compacts that whoever does not join the reception shall be fined and that the members should regale the Saṃgha by rotation (*ibid.*, 36). Sometimes it was the turn of a section or assembly *viz.*, the *pūga* (Cv. 6.2; VIII.4.1). The corpo rate unity and homogeneity of faith among the villages facilitated the conversion of villages *en masse* by Buddha repeatedly claimed in the Pali canon.

Economic co-operation :

The villagers were closely knit together by economic bonds of diverse sorts. They maintained a common neatherd to take charge of and graze their cattle in the adjoining pasture or forest (Jāt, I. 194, III. 149 ; An. I, 205 ; Ṛv. X. 19) on pay[1] or on a share of the dairy produce which was standardised by legists at 1/10 (Arth. III. 13 ; Nār. VI. 2-3 ; Yāj, II. 194). Traces of collective farming are not wanting and it would not be extravagant to conjecture that the *gāmākhetta* in which the several plots were demarcated by irrigation canals, was cultivated under collectivist initiative (Vṛ. XIV. 25, Arth. II. 10 ; Jāt. II 109). The casual reference in the Jātakas to the sowing festival (vappamaṃgala, IV. 167, VI. 479), a great annual ceremony when the King held the plough along with the

1 This, according to Nārada, is a heifer annually for tending 100 cows, a milch cow for 200 and the right to milk all the cows every 8th day (VI. 10).

peasants[1] conjures up a cheerful associate life and a full realisation of the community of agricultural interests. That the village formed a compact self-centred unit is indicated by the Smṛti emphasis on village boundary and the frequent Pali reference to the village gate (gāmadvāra, Cv. V. 24. 1 ; Jāt. I. 239, V. 441 ; Mil. 365 etc.). The kings recognised the economic entity of a village and treated it as such. Vāśiṣṭha characterises it as a corporate unity and speaks of collective fine imposed on it (III. 4). The Jātakas have many allusions to kings raising the tax of a village or exacting fines from it as a whole (I.234, 239 ; III. 9).

Gāmakiccaṃ:

In the Mahā-assāroha Jātaka as in the Kulāvaka Jātaka, the 30 inhabitants of a *paccantagāma*, here in Kāsi, "gathered together very early in the middle of the village to transact its business" (te pāto va gāmamajjhe sannipatitvā gāmakiccaṃ karonti, III. 8). When the village tax was increased the man who was the cause of the trouble was jointly induced by the villagers to go and see the unknown horseman and they provided him with the presents (paṇṇākāraṃ) he required for the visit.

The quotations amply clarify what were the *gāmakammaṃ* or *gāmakiccaṃ* to deliberate over which all the villagers assembled in the central hall. These comprised judicial function[2], municipal work like irrigation, roadmaking, etc. ; humanitarian and charitable activities, subsidising academic

1 See S. Hardy: Manual of Buddhism, p. 150.

2 This is conjectural. The *sabhā, parisa, rājakula* and *pūga* are given as assemblies which examine witnesses (Mn. I: 286, 288, III. 163). Later Smṛtis (Yāj. Nār. Vṛ), substitute *gaṇa, śrenī*, and *kula* for the first three. The *sabhā* and the *gaṇa* fit in with the village assembly. There is also the express reference that a Brāhmaṇa must not take the food offered by those who are punished by a *gaṇa* or a village

foundations; sacrificial performances, pious invitations and religious endowments with the formation of boards of trustees; examining the state of crops and incidents of general interest. Rural problems loomed large and from here started the 'marches' and deputations to the *bhojakas* or higher authorities urging relief against famine (Jāt. II. 135, 367 ; V. 193 ; VI. 487), beasts, robbers (Jāt. V. 459), *yakkhas* (Jāt V. 22) and similar other pests. Sometimes grave decisions were reached in this village council which infuriated peaceful masses into bloody revolt to pull down the instruments of autocracy and tyranny which infringed their traditional rights and interests sanctified as common law.[1]

Industrial villages:

The industrial and professional *gāmas* of the Jātakas

(gaṇagrāmābhiśastanāṃ Mbh.: XII. 37. 30). In the Jātakas we have the solitary reference to the court (*vinicchayaṃ*, VI. 333) as part of the *sāla*, whereas the *bhojaka* appears as the habitual judge of village causes enjoying fees and fines. He is more an official than a popular personality and has little association with the democratic rural apparatus (see *supra*, pp, 72 ff.) Did the *bhojaka* hold the pleas of the crown and the village *sabhā* meet only to enforce common law and corporate obligations under the sanction of social ostracism ?

1 Instances of popular revolt against misrule are not wanting in the Brāhmaṇas and the Jātakas where they sometimes expel or even execute their princes together with unpopular officials. The fear is portent in the Arthaśāstra (VI. 1), Manu (VII. 111) and Śukranīti (IV. 7. 838-39) all of which issue solemn warnings to the king against this grave retribution of tyranny. In the Anuśāsana-parva, Mahābhārata, armed revolt against and deposition of unprotecting sovereigns is definitely enjoined upon subjects (61. 32 f.). The Ceylonese chronicles state that the kings of Magadha from Ajātaśatru to Nāgadāsaka being all parricides the people banished the dynasty and raised the *amātya* Śuśunāga to the throne. The people of Taxila revolted against Aśoka for official maladministration who sent prince Kunāla to restore order and good government (Raychaudhuri: Political History of Ancient India, 5th edn, pp. 363). See also Jāt. I. 326, III. 514, VI. 156, 493 ff.

exhibit a closer bond and homogeneity than the agricultural *gāmas*. We have a fishing village of 1,000 families (kulasahassaāse kevaṭṭagāme) in Kosala of which the 1,000 fishermen used to go out in a body with their nets (I. 234). In the kingdom of Kāsi, a smith's village of 1,000 houses (kammāragāma) was organised under a head (jeṭṭhaka, III. 281). Near Barāṇasi on the two sides of the Ganges were two villages of hunters (nesādagāma) with 500 families in each and each organised under a chief (VI. 71). Barāṇasi also offers the example of a village of carpenters (vaddhakigāma) with 500 members who organised themselves into a body under a head, plied their trade and received wages together and led a common livelihood (I. 18).[1] Similar references there are to villages of salt-makers (loṇakāra, Jat. III. 489), basket-makers (naḷakāra, Mn. II. 206), robbers (cora, Jāt. I. 297, IV. 430), actors (naṭa,—see Bühler's note in E.I.I. 43), caravan-guards, Brāhmaṇas, *caṇḍālas* and outcastes. This isolation of crafts and professions and their concentration in fixed areas gave birth to the medley of castes and sub-castes which, formerly a more or less priestly hypothesis, now began to harden into rigid social partitions on the basis of occupations tightened with the bonds of heredity, endogamy and exogamy, rules of the table, etc. The corporate unity, combined with localisation of industry, tended towards a narrowness and exclusivism whose dour consequences we are suffering for generations and centuries from the past.[2]

1 It is not to be assumed, however, that every such village with localised trade formed a close corporation (Jāt. II. 405, IV. 207, V. 337).

2 N. C. Banerji throws out a plausible explanation of the rise of industrial *gāmas*. His plea is that originally the industrial population in each village catered to the requirements of the agriculturist as was the case with most villages in Pāṇini's time (VI. 2. 62 ; V. 4. 95). With the increase in demand of their wares, they freed themselves from the tutelage of agricultural interest and withdrew to places where they

The evidences of the Jātakas are fully corroborated in the Śāstra literature. In a rule of the Arthaśāstra (III. 10) it is presupposed that villagers may collectively employ a cultivator (karṣaka) on contract advancing wages and food and drink (*cf.* Yāj. II. 193), or a hireling for a sacrificial performance (prahavaneṣu). The village collectively appropriates the fine imposed on a breach of the contract. It also appears that it was the compulsory duty of every villager to co-operate in the preparation of a public show (prekṣāyāmanaṃśadaḥ na prekṣeta) and in beneficial works of public utility (sarvahite ca karmaṇi) on pain of a fine calculated at double the aid due from him. A person undertaking a public concern must be similarly obeyed by all on pain of fine, Brāhmaṇas and even superior folk not excepted (*cf.* Yāj. II. 191 ; Viṣ. V. 73). Villages might also undertake the combined performance of a sacrifice. The chapter is closed with the quotation of a verse:

"Those, who with their united efforts construct on roads buildings of any kind beneficial to the whole country and who not only adorn their villages but also keep watch on them shall be shown favourable concessions by the king."

Rājā deśahitān setūn kurvatāṃ pathi saṃkramāt
Grāmaśobhāśca rakṣāśca teṣāṃ priyahitaṃ caret

Compulsory participation of villagers in a co-operative undertaking involving expenditure and profits is also dwelt upon (II. 1).

In the Dharmaśāstras the king is directed to exile a man who violates the agreement of the corporate unit of village or locality (Manu, VIII. 221; Vṛ. VIII. 9; XVII. 5). The exten-

had better facilities for pursuing their occupation without let or hindrance. Economic Life and Progress in Ancient India, Vol. I, p. 212.

sive functions of municipal bodies are given by Vṛhaspati (XVII. 11-12):

Sabhā-prapā-devagṛha taṭāgā' rāma-saṃskṛtiḥ
Tathā'nātha-daridrāṇāṃ saṃskāro yajanakriyā
Kulāyanaṃ nirodhaśca kāryam asmābhiraṃśataḥ
Yannaitallikhitaṃ samyak dharmyā sā samayakriyā

Thus the municipalities not only undertook sacrifices and building and irrigation works but also communal charities on behalf of the indigent and relief of the afflicted in times of famine and other general calamities.[1] Elsewhere it is directed that the funds of public associations may be properly spent on behalf of the helpless and the decrepit (XVII. 23).

This is only a matured form of the communal village life manifested in the *gaṇas* of the lawgiver's time.[2]

Communal amusement:

The corporate village life expressed itself in no less pronounced manner in a lighter and festal mood. It has been shown by a German scholar that the Vedic *sabhā* served as the modern club-house after the closure of its business.[3] Later the *samāja* assumed a similar rôle. It had a fixed site (Mbh. XII 69. 11 ; Jacobi, Jaina Sutras. II, p. 117) where it organised dances, songs, music, recitations, acrobatic feats and conjuring tricks (Dn. XXXI. 10 ; *cf.* Cv. V. 2. 6),[4] The *pekham*

1 'Kulāyananirodhaḥ' is explained in the Vīramitrodaya as 'kulāyana-durbhikṣādi apagamaparyantasya dhāraṇam'.

2 For *'gaṇa'* used as corporate rural or municipal assembly, see R. C. Majumder: Corporate Life in Ancient India, 2nd ed., p. 138.

3 Zimmer: Altindisches Leben, pp. 172 ff.

4 Rhys Davids suggests that these may have been "survival from exogamic commnistic dancings together"—Dialogues of the Buddha. *Naṭas* and *nartakas* figure prominently in *utsavas* and *samājas* conducive to the well-being of the state in the Rāmāyaṇa, II. 67. 10 ; 100.44.

in the Dīghanikāya, I. i. 13 is explained by Buddhaghoṣa as *naṭa samajjā*. The Jātakas used the term as fairs in general (I. 394; III. 446, 541). Among the variety performances of the *samajjā* were combats of elephants, horses, buffaloes, bulls, goats, rams, cocks and quails; bouts at quarter-staff, boxing, wrestling, sham-fights, roll-calls, manoeuvres, revues, etc. (Dn. I. i. 13; Jāt. III. 541. Introductory story of Pācittiya 50, Vin. IV. 107). The Vinaya passages show that at these festivals food was provided as well as amusements. Aśoka used these platforms to propagate his *dhamma* by showing the people the spectacles of the *vimānas*, *hastins*, etc. (R E. IV). The description of the *goṣṭhīs* by Vātsyāyana (K. S. IV) embodies a more unbridled vein of hilarity and amusement (not at the sacrifice of enterprises of public benefit for that matter) and is a contrast to the puritan denunciation of fairs and fair-fans in the Buddhist Suttas (Dn. I. i. 13; XXXI. 10: Cv. I. 13. 2; V. 36).

From tribal autonomy to corporation and democracy :

Sanskrit works and inscriptions profusely deal with local units, the democratic bodies that governed them and the popular clubs and committees under the various and not strictly distinguished apellations of *śreṇī, gaṇa, jāti, pūga* etc.; of *sabhā, samiti, nikāya, pariṣad, samūha,* etc.; of *goṣṭhī, samāja,* and so on. These bodies had their laws held sacrosanct, they enjoyed autonomy in their affairs, administered judicial and municipal functions, had their funds and finances and sometimes even minted coins in their name (Basārh seals)[1]. The Śākyas, Licchavis and similar republican clans who held their deliberations in the *santāgāra,* exhibit in fullness the

1 An elaborate catalogue of these institutions and their respective functions is given in Radhakumud Mukherji's Local-government in Ancient India.

original communal brotherhood. The assemblies of heads of families as seen in the Jātakas and of elders as manifested in the Smṛtis and the Arthaśāstra reflect the earlier stages of the growth of tribal communities. The testimony of later Smṛtis (Vṛhaspati, Nārada, etc.) and of inscriptions mainly but not exclusively south Indian demonstrates that these early nebulous institutions later evolved into well-defined structures and functional division and the full-fledged idea of corporation[1]. The original tribal autonomy was replaced by a democracy with its constitutional conception and implication fully understood.

1 See E. I., I. 20, XIV. 14, XV. 7.

CHAPTER V

ANIMAL HUSBANDRY AND ANIMAL PRESERVATION

Cultivation of livestock a universal pursuit. Cattle magnates. Forest pens. The herdsmen. Animals reared. Royal monopoly of elephant and horse.

Protection of fauna. Ethical and economic view of protection. No proscription on the score of sacredness or impurity of animals. Deification of cow a later development. Utility and altruism.

Cultivation of livestock a universal pursuit:

As land was plenty and as it might be acquired by means of an axe and a spade, it remained the chief and most ostensible means of livelihood for the people and Megasthenes rightly observed that the mass of them were tillers of the soil. This is not to mean, however, that they were exclusively dependent on cultivation. The villagers pursued a variety of cottage industries which sometimes formed the economic basis of the village organism.[1] Agriculture, cattle-rearing, trade and usury constituted the fourfold *vārttā* or pursuits open for the amassment of fortune. Of these, cattle-rearing is in the Epics as important and universal an occupation as agricultural farming (Rām. II. 67. 12 ; 100.45 ; Mbh. II. 5.79 ; 13.2; XII. 88.28). Manu thinks it derogatory to a Vaiśya not to keep cattle, the auxiliary of agriculture (IX. 327), for, "when the Lord of creatures created cattle, he made them over to the Vaiśya, and a Vaiśya must never wish—'I will not keep cattle'." (328). Almost *verbatim* this is repeated in the Śāntiparva (60. 22,25) and it is added that "if a Vaiśya wishes to tend cattle no one else should undertake that task."

1 See *infra*, Book II, Chs. III-V.

This is one more and a glaring instance of how the priestly caste-theory was sought to be foisted on society against an overwhelmingly current practice and a warning to the historian against indiscriminate use of the Śāstra data. In every sort of available literature not excepting the very Mahābhārata there are teeming records that livestock and animal farming were the business of no particular section or group or of agriculturists at that. The kings themselves, the so called Kṣatriyas, led the way and cattle-wealth was the mainstay of their household finances, whether it be of the emperor of Kośala (Ram. II. 100. 50) or of the princeling of Kāsi (Jat. I. 240). Besides horses, elephants, cows, sheep and goats, they used to maintain buffaloes, camels, asses, mules, swine and dogs for a variety of purpose (Arth. II. 29). In the Dhūmakāri Jātaka the high-bred (vāseṭṭho) Brāhmaṇa is a goat-keeper (III. 401). All the seventy families in a Brāhmaṇa hamlet on the slopes of the Gṛdhrakūṭa mountains near Rājagṛha took to cattle-breeding as the sole means of livelihood (Ch. Dhp., Beal's Tr., p. 64). The *seṭṭhis* or the merchants of the metropolis were no exception (Jāt. I. 388); and Megasthenes' third caste who "lead a wandering life and live under tents" (Str. XV. i. 41) consists of herdsmen and hunters, evidently the nomadic aboriginals[1] who went under the brand of Mleccha according to priestly caste denomination. The universality of cow-keeping and cattle trade is manifest in the common use of cows as a standard of value and medium of exchange in the transitional stages between barter and money transactions.

1 Such Bohemians are seen on the marches of Banaras purveying animals in Jātaka, IV. 289. According to Sanskrit works the *Ābhīras* were pastoral tribes who inhabited the lower districts of the North-West as far as Sind. The Periplus notes that "the people pastured there very many cattle." (41)

Cattle magnates :

Thus animal husbandry was among the systematic occupations of all classes of people—from the pedigreed royal race down to the despised gipsy tribes, and it was a respectable profession not unbecoming a young grandee (kulaputto). For some it was the sole profession, for others it was a supplementary income with agriculture which was their habitual support. Of the former, some maintained extensive farms and rose to the highest rung of the economic ladder as pastoral magnates akin to the multi-millionaire (asītikoṭidhanam) agricultural and industrial lords. Dhaniya, the son of a *seṭṭhi* in Vedeha lived on cattle-farming (goyuthaṃ nissāya jīvati, Paramatthajotikā on Sut. I. ii), and owned no less than 30,000 heads of cattle, of which 27,000 were milch cows (tiṃsamattāni gosahassāni honti sattavisatisahassa gavo khīram duyhanti, *ibid.*) and worked a gang of slaves and hirelings in his establishment (*ibid.*). The lucid details of the Dhaniya-sutta interestingly set forth how he prided in his earnings, in his luxuriant meadows for pasture, in his cows and calves and bulls as lords of the herd and had his calves kept in stockade with stakes driven in strong and bound with ropes of *muñja* grass. The *gahapati* Meṇḍaka enjoyed a bigger farm which had to be managed by as many as 1,250 cow-keepers (aḍḍhatelasāni gopālakasatāni, Mv. 34. 19). The kings of certain states like Virāṭa of Matsya ranked with this class and in the Arthaśāstra's conception of their economic rôle, they appear as foremost pastoral lords maintaining a host of servants in charge of herds classified according to their productivity (II. 29).

Apart from the professional animal farmers, every villager used to keep a few animals for draught purposes or for dairy or meat supply to his own household. The village

maintained herdsmen in common on pay or on a share of produce, who grazed them in the pasture and forest, brought them back every evening and counted out to the several owners (An. I. 205 ; M. Dhp. Com. I. 157, *cf.* Ṛv. X. 19. 3 f.)

Forest pens :

The herdsmen, whether they be independent farmers or under the employment of others, are often found to tend the herd in the forest and keep them there in a pen. The goatherd Brāhmaṇa Dhūmakāri took a great flock of goats, made a pen in the forest, had a smoking fire to keep away gnats and lived on milk tending his goats (mahantam ajayutham gahetvā araññe vajaṃ katvā tattha ajā thapetvā aggiñ ca dhumañ ca katvā ajayuthaṃ paṭijagganto khirādīni paribhuñjato vasi. Jāt, III. 401). An abandoned mountain enclosure (giribbaja) was deemed a safe resort for their goats by certain goatherds (Jāt. III, 479). A neatherd is seen to go from his habitat to tend cattle in their sheds (gokulesu) in the forest (Jāt. III. 149). A *seṭṭhi* had a herdsman who, when the corn was growing thick, drove the cows to the forest, kept them there at a pen, stayed there and brought the produce from time to time to the master (Tass'eko gopālako kiṭṭhasaṃbādhasamaye gāvo gahetvā araññaṃ pavisitvā tattha gopallikaṃ katvā rakkhanto vasati seṭṭhino ca kālena kālam gorasam āharanti, Jāt. I. 388).

The illuminating phrase *'kiṭṭhasambādhasamaye'* gives a clue to why the herds were taken to and kept in forests in spite of great inconvenience and constant threat from wild beasts and cattle-lifters. Vast expanse of arable land (kṣetra) stretched around the homestead land (vāstu) of the village. Beyond that was pasture land (vraja) interspersed with wild tracts or dense

forest infested with the denizens. To leave the multitudinous flocks and herds to graze near about the verdant *kedāra* would be dangerous for the harvest despite all the attention and watchfulness of a few herdsmen. They had, therefore, to be taken and kept away in the distant woods whence it would be troublesome for keepers and dangerous to the crops to bring them home every day.[1] This contingency, of course, did not arise in places where there were extensive pasture lands outside the *khetta* or where the herds were comparatively few to manage.[2] Again, from the instances cited above, it appears that the forest *vajas* were temporary sheds, for after the harvest the cattle is brought back and left in the bare field to graze.

The herdsman:

This custom illustrates what a grave responsibility and thankless job was the herdsman's. The depredation of lions and tigers (Jāt. I. 388, III. 149, 479; Dn. XXIV. 2.5; Arth. II. 29; Mbh. VII. 1.24, 95.23) was not the only menace to prevent; much more troublesome to cope with was the perpetual interference of thieves. Cattle-lifting was a universal crime indulged in equally by the smallest pilferer (Jāt, I, 140, IV. 251, VI. 335) and by the suzerain emperor of Jambudwīpa (Mbh. III)[3] and such was its magnitude that the author of the Arthaśāstra was exasperated to laying down that thieves of cattle and abettors were to be put to death (II. 29).

1 It is for this reason that a cowherd who wishes to remain in the village (grāmakāma) should be as scrupulously avoided as a king who does not protect, a preceptor who does not teach or a priest who does not know the scriptures, Mbh. XII. 57.45.

2 The pasture ground with a goatherd's banian tree on the bank of Neranjarā was no wild tract but an open space.

3 *Cf.* Mbh. I. 215; Ep. In . VI 16. B; VII. 4

Apart from protection against brutes and thieves, herdsmen had other responsibilities classified into 11 qualities in the Buddhist *suttas* calculated to bring success in looking after the herd and in promoting its increase. The competent man (*i*) has knowledge of form (rupaññu), (*ii*) has an eye for marks (lakkhaṇakusalo), (*iii*) gets out ticks (āsāṭikaṃ sāṭetā), (*iv*) dresses sores (vanaṃ paṭicchadetvā), (*v*) smokes out the lairs (dhūmaṃ kattā), (*vi*) knows about fords (titthaṁ jānāti) and (*vii*) watering places (pītaṃ jānāti) and (*viii*) roads (vīthiṃ jānāti) and (*ix*) pastures (gocarakusalo), (*x*) does not milk dry (sāvasesadohī) and (*xi*) tends with special attention the bulls that are the sires and leaders of the herd (te usabhā gopitaro goparinayakā te atirekapujāya pujetā hoti, Mn. I. 220, An. V. 350). The Arthaśāstra rule requires of him the knowledge of treating cow diseases and fording them safely (II. 29). The knowledge of *titttham* is further illustrated in the Majjhima nikāya I. 225 where a man courts disaster to his herd in trying to drive it across the Ganges where there was no ford (presumably there was miry or steep bank, strong current or a cataract or whirlpool) and another safely drove it across. Here as well, preference is given to the sires and lords of the herd.

The Arthaśāstra wants the best herd to be entrusted for fixed wage (vetanopagrāhikaṃ) for otherwise they may be spoiled by overmilking. Herds of the next grade are surrendered for a fixed amount of dairy produce (karapratikara), *viz.*, 8 *vārakas* of ghee per year which the owner will receive. Only the useless and abandoned lot (bhagnotsṛtakam) is given for a share of dairy produce which is fixed at 1/10 (II. 29). There is a touch of realism in the joke flung at Nāgasena by a Brother that he was carrying his canonical lore for the benefit of others just as the herdsman tends cows while others enjoy the produce (seyyathā pi.....

gopālako gāvo rakkhati aññe gorasaṃ paribhuñjati, Mil. p. 18). Truly, the herdsman's was not an enviable job.

Domestic animals :

To turn now to the different species domesticated and their economic use. In the Mahābhārata is given that lion, tiger, boar, buffalo, elephant, bear and ape are the seven wild animals (āraṇyāḥ) ; and cow, goat, sheep, man, horse, mule and ass are the seven domestic animals (grāmyāḥ, VI. 4. 13 f. Bengal text). Of the former group, boar, buffalo and elephant are found to be reared. These animals were very often cultivated by single species. We come across, for example, not only the *gopālaka* and *ajapāla* but also the *piṇḍāraka* and *sukaraposaka* (Arth. II. 29 ; Dn. XXIII. 25)[1]. The camel and the dog are conspicuous in royal stables and kennels[2] and the fowl noise about the village farmyard. Ducks are not seen among domestic poultry. Cows, buffaloes, goats and sheep were reared for dairy (gorasam) as well as for meat supply and for skin. Swine and fowl were meant entirely for consumption. The ox alone drew the plough. Bulls, mules, asses and camels were used for draught[3] and could be let out on hire by owners (Str. XV.

1 The varieties of animal flesh were also disposed of from separate stalls in the market place and different sets of stockists and butchers throve on them : *e.g.*, the cattle-butcher (goghātako), sheep-butcher (orabbhiko), pig-sticker (sūkariko), fowler (sākuntiko), deer-stalker (māgaviko), etc., Mn. I. 343. *cf.* Iguana-trapper (godhaluddako) in Jātaka I. 488. Rhys Davids observes the absence of any custom of breeding cattle for the meat market (Buddhist India, p. 94). Against this may be noted the frequent reference to the slaughter house (suna, parisunam).

2 The mention of dogs in royal household is frequent in the Rāmāyaṇa. Alexander received 150 dogs as present from king Sopeithes (Str. XV. i. 31).

3 On rare occasions also horse and elephant (Arth. II. 30 ff. ; Mbh. V. 132. 21: Pliny. VI. 22; Solin, 52. 6-17; Arr. XVIII).

i. 41 ; Jāt. I. 195). The dog assisted herdsmen to reconnoitre grazing forests (Arth. II. 29) or guarded royal apartments (Jāt. I. 175) or served as hunting accomplices to the king (Jāt, IV. 437) or to nomadic huntsmen (Jāt. VI. 528). The horse and elephant were employed according to their varied nature for draught, riding and war. Animals used for draught purposes were generally castrated and sometimes their horns were cut off (Mbh. XII. 15.51). The beasts and birds, wild and domestic, yielded a large variety of animal produce, *viz.*, skin, claw, horn, hoof, plume, tusk, wool, etc.

Royal monopoly of elephant and horse :

Megasthenes says that the elephant and horse were royal monopoly (Str. XV. i. 41 ff.). In the Mahāvagga elephants and horses are said to be elements of royalty (rājangam VI. 23. 10f. *cf.* Mil. p. 192 ; Mbh. XIII. 102,13). The testimony of the Jātakas (assā nāma rājabhogā, III. 322) and of the Arthaśāstra favours this view. Medhātithi's note on a text of Manu is concurrent, on the basis of which Bühler argues that the taming and sale of elephants used to be a royal monopoly.[1] This was quite in the fitness of things in view of the great military importance of these two animals, particularly of the latter. But certainly such monopoly was not universal and there was no cast-iron rule. According to Arrian a woman could sell her chastity at no price below an elephant (XVII. *cf.* Str. XV. i. 43). Certainly no mere joyride is meant. Elsewhere Greek writers testify to elephants being used by certain peoples or hunting, for ploughing and for riding (Pliny, VI. 22 ; Solin. 52. 6-17 ; Arr. XVII). In the Kulāvaka Jātaka, villagers were given an elephant by the king. In the Mahābhārata elephants and horses sometimes appear

1 S.B.E. XXV. 323 fn.

among royal presents at sacrifice (VII. 57 ; 68.31 ; XIII. 103.25). The *seṭṭhi*'s son, Soṇa Koḷivisa of Campā had retinues of seven elephants (*i.e.*, each of the seven was a lord with a number of dames attached to it,—as explained by Buddhaghosa, Mv. V. 1.29). Of course, these are instances outside a general principle followed by Indian royalty and there is no question that the horse and elephant were *rājangam* or *brutes royales.*

Protection of fauna ; *ahiṃsā* :

The rich Indian fauna for which Greek writers have a chorus of praise was consciously preserved against destruction and annihillation despite the rapid progress of Aryan exploration and the clearance of primeval forests. The principle of protection and promotion of animal wealth received a dynamic impetus from the ethical principle of *ahiṃsā* or inviolability of all forms of life which was popularised but by no means introduced by Buddha and Mahāvīra.[1] Its origin is traced in the Vedic teachings and the earliest Smṛtis. Manu wants ascetics to walk always carefully scanning the ground "even with pain to his body" and prescribes atonement for animals killed without intention (VI. 68f.). In the Śāntiparva not only killing of birds and animals is marked out as sin (35.28, 36.34, 165.56f.) but also all sorts of cruelty and physical oppression are severely indicted (261.37ff.; XIII. 23.73, XIV. 28.16ff.). The "three long fasts" which were observed by

1 Mark the parallelism in the following verses :
Sukhakāmāni bhūtāni yo daṇḍena vihinsati
attano sukham esāno pecca na labhati sukhan: Dhp. 131
Yo 'himsakāni bhūtāni, hinasti ātmasukhecchayā
sa jīvaṃśca mṛtaśca na kvacit sukham edhate : Manu, V. 45
Ahiṃsakāni bhūtāni daṇḍena vinihanti yaḥ
ātmanaḥ sukham icchan sa pretya naiva sukhī bhavet: Mbh. XIII. 113.5.

Buddhists with great *eclat* on the days of Yuan Chwang's visit and during which no slaughter of animals was allowed because god Indra was believed to be carrying on a searching inspection of popular conduct, show that these were originally a popular rather than a Buddhist institution.[1] Indian folk-lore abounds with such idealised stories of animal-love as those of the prince who flung his body from a mountain peak to relieve a starving tigress with her cubs, of a king who gave his pound of flesh to a hawk in order to save a fugitive pigeon and prince Jīmutavāhana who offered himself to be devoured by Garuḍa for a *nāga*'s sake,—all of which formed a common heritage for canonical books of orthodox and heretical sects. The same moral is deftly inserted in the prelude of the Rāmāyaṇa where the sight of a stricken bird and its wailing mate stirred the feelings of an illiterate sage finding vent in spontaneous metrical effusion which heralded the great Epic.

The Sanskrit literature,—the early Epics with their naïve simplicity and later *kāvyas* in their ornate style, portray the working of the doctrine of *ahiṃsā* in the *āśramas* or sylvan retreats of venerable saints where birds and beasts were protected from injury and stayed in perfect harmony with men. In the Rāmāyaṇa such a safe sanctuary was the arbour of Mātanga where shedding of blood was sacrilegious to be terribly avenged. In the Mahābhārata occurs the legend of Duṣmanta who steps into Kaṇva's hermitage in an orgy of animal slaughter and is immediately transported from an atmosphere of panic and fury to one of calm and concord where monkeys, bears, elephants, tigers and snakes live unharmed with holy ascetics and *kinnaras*. Such descriptions in the Epic *ākhyanas* approximate to actual life and are remarkably immune from poetical fancy and artistry which

1 Watters: Yuan Chwang. Vol. I, pp. 304 f.

is displayed in later sophisticated literature written under court influence or for the edification of a refined and sensuous urban public.[1] Even the Arthaśāstra, a work that certainly does not err on the side of religiosity, affirms that all creatures are protected in a forest set apart for religious pursuits (II. 2).

That later poets revelled in depictions, however artificial, indicates that the idea of peace and amity in the animate world had, apart from any speculative tenet, an æsthetic and sentimental appeal among the people for whom they catered. This and the effect of meat diet on human constitution led to a general aversion for animal food among those Brāhmaṇas who observed the code. Instances are rare in ancient literature of pious Brāhmaṇas taking flesh except on ceremonial functions or after worship of the manes. The Rākṣasa Ilvala could not bait the Brāhmaṇas with mutton unhallowed by the *mantras* or without dedication to ancestors (Rām. III. II. 57). The law-givers emphatically interdict it unless taken in conformity with the law, *i. e.*, after Vedic rites and sacrifices, under the threat of unexpiable sin and eternal perdition (Viṣ. LI. 59-78 ; Manu, IV. 38-52 ; Yāj. I. 180 f.).

Protection from economic view:

But the doctrine or sentiment of *ahiṃsā* could not arrest animal carnage,—among the Brāhmṇas for sacrifice, among the ruling classes for sport and among the lay public of all grades for food and articles of luxury and use—such as skin, feather, bone, horn, hoof, etc. (Jacobi : J. S., I. p. 12). In the Mahā bhārata a long lecture on the virtues of *ahiṃsā* and abstention from meat-diet (XIII. 115 f.) is followed by excep-

1 *Cf.* Kālidāsa's Śakuntalā, Act I, and Bāṇa's Harṣacaritam, the scene of Divākaramitra's forest academy.

tions made in favour of sacrifice and hunting for the royal race. Of Brāhmaṇical protests against animal sacrifice there are only faint traces and even these half-hearted and conditioned apologies for non-killing may have been inspired under Buddhist influence (Mbh. XII. 264 ; 338. 4 ff. ; XIV. 91). The law-givers legislated for the guidance of Brāhmaṇas alone. Manu even allows a Brāhmaṇa to adopt the calling of a butcher (mṛāṃsavikrayin, III. 151) in exceptional circumstances. Buddha himself allows fish and flesh to his disciples on the three conditions of not having seen, heard or had suspicion (Mv. 31. 14 ; Mn. I. 368ff.) Of checks against destruction of animals for the above purposes there are only meagre evidences. The social stigma attached to the professional hunter and purveyor in flesh (nisāda, kirāta, heḍḍaka, luddaka) in the Epics and in the Jātakas may have been a partial safeguard and Megasthenes' observation of hunters "who alone are allowed to hunt" (Str. XV. i. 41) probably reflected the general relegation of hunting profession to those degraded castes.[1] An anecdote in the Mahābhārata tells how Yudhiṣṭhira spared the remnant of the fauna in a forest where the Pāṇḍavas lived by hunting and repaired with his party to the Kāmyaka forest abounding with wild life (II. 256). To save animals from death at the altar, Buddha's voice was no doubt effective for some time. Restrictive measures were taken by strong monarchs under Buddhistic influence—such as Aśoka and Harṣa. But these were directed only against unnecessary cruelty and wanton slaughter and they did not dare to interfere in consumption of animal food as such nor

1 Apart from the despised classes who took to hunting as a means of livelihood, sport as an enjoyment is found confined to kings and chieftains. We hardly come across agricultural and mercantile classes indulging in it ; and if and as soon as they take to it for living they get the brand of degradation.

did they attach in their injunction any special sanctity on animal life.

Strabo's remark on Megasthenes' authority that the Brāhmaṇas "eat flesh but not that of animals employed in labour" (XV. i. 59), whatever truth it may contain, reflects at any rate a sound economic sense which in some quarter regulated animal diet. The ordinances of Aśoka himself are not purely altruistic. He is solicitous for the food, comfort and medical treatment of cattle as of men (R. E. II ; P. E. VII) and he boasts of having conferred various benefits on bipeds and quadrupeds, on birds and aquatic creatures even up to the "boon of life" (a pāṇadakhiṇāya, P. E. II). But in this famous abstinence ordinance where the following animals are declared inviolable—*suka* (parrot), *sālika* (maina), *aluna* (?), *cakravāka* (ruddy goose), *haṃsa* (wild goose), *nandimukha* (a kind of bird), *gelāta* (?), *jatuka* (bat), *ambakapilika* (queen ants), *dali* (terrapin), *anathikamaccha* (jelly fish), *vedaveyaka* (?), *gaṃgapuputaka* (?), *saṃkujamaccha* (skate-fish) *kaphata sayaka* (porcupine), *pamnasasa* (squirrel ?), *simala* (?), *saṃḍaka* (wild bull), *akapinda* (iguana ?), *palasata* (rhino), *seta kapota* (white dove), *gāma kapota* (domestic dove), he adds the significant clause "which are neither useful nor edible" (ye paṭibhogaṃ no eti na ca khādiyati, P. E. V.). That the spirit of the edict is not less economic than altruistic is further proved by the forest law—"forests must not be burnt either uselessly or in order to destroy living animals." Other prohibitions are against pregnant and milch goats, ewes and and sows with young ones below six months and against the preserves in fishing ponds and elephant parks on the three *caturmāsīs*, on the Tisya full moon during three days, *viz.*, the 14th, the 15th and the first *tithi* and unfailingly on every fast day. Feeding of live animals with live animals, caponing of cocks, castration of bulls, goats, rams, boars and other

livestock on certain days and branding of horses and bullocks on the same days are forbidden. The keynote of these regulations is the checking of cruel practices and preservation of the different species, and if the emperor's heart ever yearned for total abstinence all he could do was to set his own example by rigorously curtailing meat-diet in his own kitchen (R. E. I.).

The author of the Arthaśāstra is fully aware of this risk of unscrupulous drainage of animal resources and lays down practical rules for their protection. Animal produce engages his attention as much as other forest produce (II. 17). His list of inviolable birds echoes Aśoka's edicts and betrays equal care for the protection of the wild fauna against extermination (II. 26). With this view again, he gives directions for the comfort, health and safety of the livestock. Elaborate rules of dietary are framed for the guidance of the superintendents of cattle, horses and elephants with reference to their age, maternity, nature of work or use derived from them. The details of stable construction are worked out with vigilant eye to the comfort and sanitation of the beasts. A host of attendants and paraphernalia are assigned to the horse and elephant stables—trainers, feeders, cooks, watchers, grooms, vets, drivers, binders, sweepers, and so on (II. 29-32).

The preservation of the four-footed, feathered and finny races is sought with assiduous care in other rules of the economist. For this specific purpose the *abhayāraṇya* is set apart and none is allowed to "entrap, kill or molest deer, bison, birds and beasts protected thereunder." One-sixth of live animals captured shall be let off in forests under state protection. Discrimination is made, moreover, in the amount of fines against the killing of innocuous creatures that do not prey upon others (II. 26). Young elephants (bikka), elephants that would breed (mugdha), tuskless elephants, diseased

elephants and elephants suckling cubs (dhenuka) comprise the immunity list framed to ensure perpetuation of the prized stock (II. 31).

Greek writers testify to the prevailing practice of letting off young and old elephants and those of weak constitution in the forest from the haul (Str. XV. i. 41, 43 ; Arr. XIV). Elephants are reserved in special forests (nāgavana) and for the killing of an elephant one pays with his life (Arth. II. 2). Grooms and drivers are threatened with fine at the slightest breach of rules inculcated for their comfort. "Leaving as much as is equal to twice the circumference of the tusk near its root, the tusks shall be cut off once in 2½ years in the case of elephants born in countries irrigated by rivers (nadīja) and once in 5 years in the case of mountain elephants" (II. 32). The reason for this jealous attention is given as—"It is on elephants that the destruction of an enemy's army depends" (VII. 11).

In the case of domestic creatures, needless cruelty and victimisation is guarded against. Animals are to be slaughtered for flesh only in the *abattoir* (parisunam) on pain of fine (II. 26) ; the rule seems to have been observed in current practice according to the evidence of the Pali canonical works. Cruel pastimes among herdsmen such as bull-fighting stand outlawed (*cf.* Jāt. IV. 250). Fines are enjoined for neglecting nasal perforation in proper time for stringing draught beasts to the yoke. Milking of cattle is allowed twice a day during the rains and the autumns, but in the dry winter and summer seasons only once on pain of the cowherd losing his thumb. Once in six months sheep and other animals shall be shorn of their wool (II. 29). Stud bulls let out in the name of village deity (grāmadevavṛṣāḥ) and cows within ten days of calving are exempt from penalisation for trespass. Trespassing beasts from reserve forests "shall be brought to

the notice of forest officers and.....driven out without being hurt or killed." Ropes and whips only are to be used in case of stray cattle and any injury to them incurs the penalty for assault (III. 10). Livestock is protected along with other properties of a householder by laws of torts. "For causing pain with sticks, etc., to minor quadrupeds, one or two *paṇas* shall be levied ; and for causing bleeding to the same, the fine shall be doubled. In the case of large quadrupeds not only double the above fines, but also an adequate compensation shall be levied" (III. 19).[1]

The importance of the protection of animal trade is fully realised. In assessing the toll dues on merchandise, bipeds and quadrupeds are placed in the scale of maximum preference along with other commodities the duties on which are charged between $\frac{1}{2}$ and $\frac{1}{2\frac{1}{2}}$ of value. The *gopa* or village accountant is entrusted not only to keep a register of citizens but also of bipeds and quadrupeds in a village. The spies are likewise deputed to ascertain the total number of men and beasts (II. 35),

Sacredness or impurity of animals:

It is interesting to note that in early Indian literature, secular or sacred, no consistent attempt is made at proscription on the score of sacredness or impurity attached to particular beasts. The inviolability of cow as a divine

1 Manu's scale is:

Fine for killing of large animals, cows, horses, camels, elephants, etc.			500 paṇa
" injuring small cattle	...	...	200 "
" " beautiful wild quadrupeds and birds			50 "
" killing donkeys, sheep and goats		...	80 "
" " a dog or a pig	...	...	16 "

VIII. 296-98.

creature is not an ancient custom and probably originated in later days of syncretisation with foreign settlers, crystallising still later when Hindu society was reconstructed on hide-bound dogmas and practices. In its rules on cow slaughter, the Arthaśāstra wants the immunity of only calves, milch cows and stud bulls (II. 26). Among Aśoka's list of inviolables "which are neither useful nor edible," is included the "*saṃḍaka*," the qualifying clause is a pointer to the rendering 'wild bull.'[1] In the Vedic, Buddhist and classical Sanskrit literature, there is no dearth of allusions to cow-killing or the taking of cow's flesh. The epithet 'aghnyā' occurs in the Ṛg-veda with reference to cattle, but practice is all to the contrary.[2] Ox's flesh is prescribed as food in the Bṛhadāraṇyaka Upaniṣad (6.3.13). In the Śatapatha Brāhmaṇa

1 *Cf.* ".....even sheep, they say, run wild there, as well as dogs and goats and oxen, which roam about at their own pleasure being independent and free from the dominion of the herdsmen. That their number is beyond calculation is stated not only by writers on India but also by the learned men of the country....."Aelian, XVI. 20.

2 For illustration see Macdonell and Keith : Vedic Index, II, p. 145.

The following verse of the Ṛg-veda is of interest as reflecting the origin of the idea of divinity:

Mātā rudrāṇāṃ duhitā vasūnāṃ svasā-dityānāmṛtasya nābhiḥ
pra nu vocaṃ cikituṣe janāya mā gām-anāgām aditiṃ vadhiṣṭha
8. 101. 15.

The Taittirīya Araṇyaka adds to this verse:
Pivatūdakam tṛṇānyattu. Om-utsṛjata.

The interpretation of the word 'utsṛjata' by scholiasts of different ages helps us to understand which way the wind was blowing. Jaimini gives the gloss :

tāmupāṣṭāṃ hate pāpmānameva taddhate 'tha yadi gām-utsṛjet-tām-etenaiv 'otsṛjed-gau-rdhenu-rhavyā: Śr. Sūt. (kārikā 15 substitutes *'upāgatām'* for *'havyām,'* making the meaning clearer). So the sacrifice of a dry and old cow with the holy *mantras* amounts to the slaughter of sin. It is lined up with the scape-goat.

Yājñavalkya is fond of tender beef (III. 1. 2. 21). According to Pāṇini 'goghna' means a 'guest' because a cow is killed for him (III. 4. 73). Āpastamba permits the slaughter of a cow at the reception of a guest, at the worship of the manes and at nuptial celebrations (Gṛhyyasūtra, 1. 3. 9 ; *cf.* Śat. Br. III. 4. 1. 2. ; Manu, V. 41 ; Vāś. IV. 8 ; Sāṃ. II. 16. 1 ; Viṣ. LXXX. 9 ; Yāj. 1. 19). In the beginning of Act IV of Bhavabhūti's Uttararāmacarita a heifer is stated to be slain by Vālmīki in honour of Vaśiṣṭha's visit to his *āśrama*.

In the Buddhist works the 'goghātaka' is a familiar figure and his profession, according to the Dasabrāhmaṇa Jātaka was widely followed by straying Brāhmaṇas (IV. 361 ff.). Slaughter of ox for flesh was very common (Śut. III. viii. 7 ; Jāt. II. 50, 135 ; VI. 111.) and there were special slaughter-houses for beef (gāvaghātanaṃ, Mv. V. 1. 13). Even cows did not necessarily find exemption (An. IV. 137 ; Ch. Dhp., p. 60 ; Āpast. I. 5. 17. 30). The *suttas* present this very unedifying spectacle at the most prominent place of the town or village ; "As the cattle-butcher or his apprentice, when he has killed an ox or cow, displays the carcase piecemeal at the crossing of the four highroads as he sits" (goghātako vā goghātakantevāsi vā gāviṃ vadhitvā cātumahāpathe vilaso paṭibhajitvā nisinno assa, Dn. XXII. 6 ; Mn. III. 91).

The gloss in the Gṛhyasūtra goes :

ṛtvig-ācāryyaḥ snātako rājābhiṣiktaḥ priyaḥ sakhā śrotrīyaśceti tebhya ātithyam gāṃ kuryyāt-tām-atithaya iti prokṣet. 1. 12.

Is the cow to be given away to guests or slaughtered for their entertainment ? The latter deduction agrees with the similar injunction in Āpastamba Gṛhyasūtra and with Pāṇini's derivation of 'goghna.' Thus even a *snātaka* and a *śrotriya* are not averse to beef.

Compare Sāyāṇa's commentary on 'om-utsṛjata': 'vadhyām-enāṃ rājagavīm parityajata.' So a dry cow is not to be slaughtered whether at sacrifice or for guests but let go to graze at will. Sāyāṇa represents an age when cow-killing was an anathema.

It rather appears that beef was the commonest of flesh consumed. Similarly, there were no strictures laid on grounds of impurity. Swine and fowl often figure in animal husbandry of the lay and clerical folk even in Sacred Books. Aśoka's exemption of pregnant and mother sows indicates that there was no ban on the use of bacon or ham. In the Mahāparinibbāna Sutta Buddha is offered a dish of pork[1] by Cunda the artificer's son (also Ud. VIII. 5). Like the cattle-*abattoir*, there was swine-*abattoir* (sukarasunam, Mv. VI. 10. 2) and the pigsticker (sukariko) was the dealer in ham in the market as the *goghātako* purveyed beef. In the Rāmāyaṇa as well pig and fowl appear as appetising food in the menu of a feast arranged by as good a saint as Bharadvāja (II. 91. 67, 70). In the Chinese Dhammapada a Brāhmaṇa is taking fowl without the least sense of wrong (p. 150). In the Milinda a remarkable cock-lore is evinced (pp. 366 ff.). The testimony of the Jātakas (I. 197) and of the Arthaśāstra (V. 2) is identical. Indeed, oxen, goats, fowl and pigs are the choice animals slain in sacrifice to gods (Jāt. I. 259, IV. 364; Dn. XXIII. 31). In a Vinaya list of unpalatable and inedible food to which the people fell only in famine, occur elephant, horse, dog and snake (Mv. VI. 23, 10 ff.). Fowl, swine and cow never come in the list of animals and birds forbidden even for the Brāhmaṇa's table (Śat. Br. I. 2. 1. 8; Ait. Br. II. 1. 8; Āpast. I. 5. 17. 29 ff.; Manu, V. 11, 18; Yāj. I. 172, 176; Mbh. XII. 37. 24-26). It is only as late as in the Si-yu-ki that beef and ham are classed among non-edibles (Watters, p. 178).[2]

1 If *sukaramaddava* is not fungus. See Rhys Davids' note in Questions of Milinda, I. p. 244.

2 High-crested cocks born of Vṛtra's blood (śikhaṇḍāḥ) occur as non-eatable to the twice-born and the initiated in the Mahābhārata, XII.

Protection and deification of cow:

From the Vedic times however and throughout the Smṛtis and the Epics there was a vigorous attempt for the prohibition of cow slaughter and protection of the invaluable cattle-wealth : but of deification of cow there is hardly any sound evidence. In the Rāmāyaṇa cow-killing (IV. 34. 12 ; Mbh. VII. 17. 31; 73. 27) and milking a cow just delivered (II. 75. 54) are sins. In the Mahābhārata the good old days are mournfully recalled when the Vaiśyas fed with care all cattle that were lean and never milked kine as long as the calves drank only the milk of their dam (phenapāṃśca tathā vatsān na duhanti, I. 64. 22). "Does not milk dry" is a favourite analogy on judicious taxation by kings. Among the glories of Cedi is the custom that lean cattle are never used for draught but are well-fed and fattened (I. 63. 11) and it is only in the dark days of *kali* that men will employ cows and one-year-old calves for drawing the plough and carrying burdens (III. 189. 27). The reason for this solicitude is that the cow is the foremost of all quadrupeds as surely as the Brāhmaṇa is among the four castes (VI. 123. 34 ; XII. 11. 11). Hence Skanda is appointed leader of divine hosts for the well-being of cows and Brāhmaṇas (gobrāhmaṇahitāya ca, III. 228. 23; XII, 21. 18; Baudh. II. 2. 4. 18).

But cattle is the chosen victim for sacrifice on large scale (I. 74. 130). In king Rantideva's kitchen 2,000 cows and 2,000 other animals are killed daily and the meat distributed so that the fat of these animals forms the river Carmaṇvatī *i. e.*,

281. 60. In view of the evidences adduced and the composite character of the Śāntiparva, this may be supposed to be either a later priestly interpolation or a reflection of local custom. Of course tame cocks and pigs occur in an omnibus list of animals prohibited to the Snātaka Brāhmaṇa in Gaut. XXIII. 5 and Manu XI. 157.

modern Chambal (III. 207. 8 f.; VII. 67. 5; XII. 29. 123; XIII. 66. 43). The reason for this is thus given:

"The sacred fire is fond of animal food"—this saying has come down to us. And at sacrifices, animals are invariably killed by regenerate Brāhmaṇas and these animals, being purged of sin by incantation of hymns, go to heaven."

agnayo māṃsakāmāśca ityapi śrūyate śrutiḥ |
yajñeṣu paśavo brahmaṇ vadhyante satatam dvijaiḥ |
saṃkṛtāḥ kila mantraiśca te' pi svargam avāpnuvan ||

III. 208. 11 f.; *cf.* VII. 67. 4; Manu, V. 40-42; Vāś, IV. 7; Viṣ, LI. 59. 78; Yāj. I. 180 f.

Aelian describes with the characteristic bluntness of a foreigner this pious benefaction of the animal race on the part of the priesthood:

"In the country of the Indian Areianoi there is a subterranean chasm[1] down in which there are mysterious vaults ... Hither the Indians bring more than thrice 10,000 head of cattle of different kinds, sheep and goats and oxen and horses; and every person who has been terrified by an ominous dream, or a warning sound or prophetic voice, or who has seen a bird of evil augury, as a substitute for his life casts into the chasm such a victim as his private means can afford giving the animal as a ransom to save his soul alive." (XVI. 16.).

Obviously, there were two contradictory forces at work. The utility of cow was appreciated but its slaughter for greed was not checked any more than the goat is spared to-day from an appreciation of the value of its milk. That the cow was the foremost of creatures was the very reason why it should be sent over to propitiate the gods. Buddha's spirited denun-

1 Obviously the sacrificial pit. *Cf.* Jāt. I. 300.

ciation of sacrificial rites voiced the necessity of cow-protection on economic grounds. He rebuked the silliness of Brāhmaṇas who had fallen from their older virtues and taken to the evil practice of cow-sacrifice.[1] Knowing that cows are our benefactors like our parents and givers of food and strength the Brāhmaṇas of old abstained from cow-killing:

Yathā mātā pitā bhātā aññe vā pi ca ñātakā:
gavo no paramā mittā yāsu jāyante osadhā
annadā valadā c'etā vaṇṇadā sukhadā tathā
etam atthavasaṃ ñātvā nassu gāvo haniṃsu te
—Sut. II. vii. 13 f.

At the instance of Brāhmaṇas of a later date the king sacrificed many hundred thousand cows to the gods (*ibid.* 25). The result was that while formerly there were 3 diseases, they now multiplied to 98 (*ibid.*, 28).

Utility and altruism:

Without doubt Buddha was no man to deify cows. The utility of the cow is the motive behind the inviolability preached in didactic works. The cow was no fetish of the Indo-Aryans as the Horus or Set was of the Egyptians.[2]

1 The Brāhmāṇas were, by the way, never opposed to cow sacrifice; the fictitious allusion is meant only to emphasise the sermon.

2 There is a similarity in the evolution of the cult of the Apis and Mnevis bulls, the representatives of the gods Ptah and Ra in Egypt where these animals were deified and venerated in the Saite age of national decline and the deification of bull, the animal of Śiva, during the foreign subjection of Hindu states. The Śiva with his bull is represented in the coins of the Kuṣāṇas and Scytho-Sassanian kings and in a coin of Śaśāṅka, king of Gauḍa. But it is for the first time and as late as in a coin of the Huna Mihiragula that a bull-emblem of Śiva is seen with the legend 'jayatu vṛṣaḥ' on the reverse. For reference see D. R. Bhandarkar: Lectures on Ancient Indian Numismatics, p. 18.

Did the deification of the cow originate in Indian source and of the bull come from foreign source?

If the cow is sometimes found held sacred and adored the explanation is to be sought in this pragmatic consideration rather than in deification (*cf.* Mbh. XIII. 51. 26 ff. ; 69. 8). The injunction that touching a cow with feet is sin (Rām. II. 75. 31 ; Mbh. VII. 73. 30 ; XIII. 93. 117 ; 126. 28 ff.) is to be read with the crimes indicted for cruelty to cows. This utilitarian feeling ultimately led to the abolition of cow-sacrifice and the fitter use of cow in gift (Mbh. XIII. 66. 44).[1] The farthest point toward the sacredness of the cow is noticed in a Jātaka passage. An auspicious bull all white (sabbaseto maṃgala usabho) belonging to the *gāmabhojaka* is killed by snake-bite and the villagers "all ran together weeping, honoured the dead with garlands and buried him in a grave" (sabbe ekato va āgantvā kanditvā taṃ gandhamālādīhi pujetvā āvāṭe nikhaṇitvā, IV. 326). But such honour is bestowed on the horse and the elephant with the same naïvete. The *maṃgalahatthi* (1. 320) is even more prominent than the *maṃgala usabha* and has, moreover, the virtue of bringing rain against drought (VI. 487 ff. Cp. Kurudhamma-C). The *hatthimaṃgala* or elephant festival is a common affair in the Jātakas. A king used to honour an elephant by having its stall perfumed with scented earth, coloured hangings put round a lamp with scented oil, a dish of incense set there, a golden pot set on its dunghill, coloured carpet spread on its stand and royal food of many choice flavours (Jāt. III. 384. *Cf.* IV. 92). A highbred elephant of the *mleccha* king Śālva was frequently worshipped (supūjito) by Dhṛitarāṣṭra's son (Mbh. IX. 20. 3). A horse is seen honoured by a king exactly in the manner of the elephant just referred to (Jāt. II. 291).

1 This statement in the Anuśāsanaparva with a lengthy homily of thirteen chapters on the greatness of the cow is undoubtedly a later interpolation reflecting a time when cow-sacrifice was on the wane. For later, in this very *parva*, gift of beef to the *pitṛs* is enjoined (88. 7).

In the Bhārata war, war-horses are bathed and garlanded (VII. 112, 56). A colt installed as horse of state is sprinkled with ceremonial water (Jāt, II. 287). "During the period of the *cāturmāsya* and at the time when the two seasons meet waving of light shall be performed thrice. Also on new moon and full moon days, commanders shall perform sacrifices to *bhūtas* for the safety of elephants" (Arth. II. 32). "Horses shall be bathed, bedaubed with unguents and garlanded twice a day. On new moon days sacrifice to *bhūtas* and on full moon days the chanting of auspicious hymns shall be performed. Not only on the ninth day of the month *āśvayuja*, but also both at the commencement and close of journeys as well as in the time of disease shall a priest wave light invoking blessings on the horses" (*ibid*,, 30).

These silly rites performed to ward off evil spirits were nevertheless meant to safeguard the interests of state, to protect the sinews of war against all sorts of danger and not to appease animal divinities held in superstitious veneration or fear. They were indispensable in war and sport as the cow was the prized source of milk, curd, butter and ghee. If it was sin to touch the animal with feet, here worked the same Indian psychology which deters the workman from kicking his tool. The cow's udder, the sheep's wool, the elephant's tusk are all subject to protection laws against the cupidity of improvident owners. This sense of utility of animal labour and animal produce accounts for the culture of animal lore and the improvement of veterinary science to which Aelian (XIII. 7), Aśoka and the Arthaśāstra are outstanding but not the only witnesses. The theoretical background of animal preservation in ancient India was the ethical doctrine of *ahiṃsā* and the economic doctrine of protection. The tribal totems of primitive communities among other races which hardened into fetishes or exalted

gods of cities or 'nomes' and enjoyed inviolability on grounds of sacredness even when the clans passed beyond the totem stage, were foreign to the Indo-Aryans whose rituals rose beyond animistic level and were fixed on elemental and astral divinities from the earliest traceable times.

CHAPTER VI

FORESTRY

Protection of flora. Sylviculture. Pleasure parks and religious retreats. Reserve forests. Strategic and economic value of forests.

Forest legislation:

While clearance of forests and exploration and settlement of new areas were growing apace with the progress of Aryan penetration towards the east and south, a conscious attempt was made to prevent wholesale destruction of forests and of the wild flora and fauna therewith. Buddha and Mahāvīra issued ordinance for the protection of plant life as much as of animal life (Mv. III. 1-3 ; Jacobi, J. S. II. p. 357). This agrees with the immunity accorded to all forms of life in the sylvan sanctuaries of saints and ascetics consonant to the tenet of *ahiṃsā*[1] and with the injunction of the Arthaśāstra on the inviolability of all creatures mobile and immobile (pradiṣṭābhaya sthāvara-jaṃgama)[2] in the *abhayāraṇya* or forest set apart for religious pursuits (II. 2). Aśoka promulgated an edict that "forests must not be burnt either uselessly or in order to destroy living beings." (P. E. V.), probably an echo of Buddha's ordinance not to set woods on fire issued for the guidance of the *bhikkhus* upon a complaint from the people (Cv. V. 32. 1). In Manu cutting green trees for firewood involves loss of caste (XI. 65). In the Mahābhārata

1 In an interesting discourse a sage argues the thesis that trees have life, sense perceptions and the capacity to feel pleasure and pain—the kernel of Sir Jagadis Chandra Bose's discovery. Mbh. XII. 184. 10 ff. Cf. Manu on plants: antaḥsaṃjñā bhavantyete sukhaduḥkhasamanvitāḥ.

2 *Pradiṣṭābhaya*—"whose immunity has been ordered." Shamasastri rendering, "made safe from the dangers of" is plainly inadmissible.

it is laid down that to cut down a tree of the forest is a sin (XII. 32. 14 ; 36.34 ; *cf.* Viṣ. V. 55-59) and setting fire to woods as well as to *āśramas*, villages and towns is classed as equal to the sin of Brāhmaṇicide (XIII. 24. 12). According to the Arthaśāstra one setting fire to timber or elephant forests shall be thrown into fire (IV. 11).

Sylviculture in the Epics:

The Epics offer hand in hand illustrations of great schemes of colonisation and deforestation and of preservation of forests and sylviculture under the solicitous care of the state or community to maintain a perpetual supply of forest products. The prodigious road-making endeavour from Ayodhyā to the bank of the Ganges *en route* the Daṇḍaka forest involved a large-scale clearance of wild tracts (Rām. I. 80) ; and the great fortnight-long conflagration of the Khāṇḍava may have been the Epic version of another magnificent colonial scheme (Mbh. I. 230 ; *cf.* Jāt II. 358). Instances of opposite nature are not rare. A Candana forest in southern India yielding a large variety of the aromatic was protected by the *gandharvas* (Rām. IV. 41. 41). In Sugrīva's honey-park (madhuvana) none could drink honey or pluck fruits without special permission. The forest officer Dadhimukha was appointed with a retinue of guards (vanapāla) to look to its upkeep and protection. The *vānaras*, overjoyed at the discovery of Sītā, trespassed into the forest and drank up all the honey, ate up the fruits and destroyed the combs, flowers and foliage. The superintendent with his men interfered but they were defied by the intruders and in the altercation which followed had the worse of it. He went to Kiṣkindhyā and reported to his lord but Sugrīva took hint that Sītā must have been traced and gave orders that the *vānaras* might disport in the forest as they pleased (Rām. V. 61-63).

Pleasure parks and religious retreats; in Buddhist works:

The forests served a manifold purpose. Those which were owned by kings or private individuals (vana, dāya) were frequently of the nature of pleasure parks, occasional haunts for the owners to disport with their ladies. At the same time these afforded a retreat for the spiritual quest of those whom they might permit. Buddha frequently came to stop at the Isipaṭana deer-park (migadāya)[1] in Kāsi and there delivered his discourses. Three of his disciples lived in the Sāla forest of Gosinga and when Buddha was about to enter it the keeper (dāyapāla) intervened and asked him not to go in and disturb the three *kulaputtas* who were living there for their soul's good (attakāmārūpā viharanti, Mv. X.42; Mn. I. 205, III. 155). The Jātakas are familiar with park-keepers in charge of reserve forests which are nevertheless open to the settlement of ascetics (IV. 18, 298, 405; V. 465). These resorts, however, were more in the nature of gardens than forests and the plea for their reservation was less economic than religious and recreative. The Jetavana and the Añjanavana at Sāvatthi, Jīvaka's *ambavana* at Rājagaha and the *ārāma* of Visākhā Migāramātā were quiet garden retreats where religious occupation was combined with pleasure and no forest as the epithet *vana* may suggest.

Reserve forests; in the Arthaśāstra:

The forest in its real sense was not the *vana* but the *araṇya*[2] which came under the purview of economic legislation. The Arthaśāstra displays an advanced knowledge of forest economy and a keen interest for forest conservancy. Forestry commands the author's attention on three grounds

1 See Rhys Davids' note in the Dialogues of the Buddha, Bk, I, p 223.

2 The word *vana* is used in both the senses of a park and a forest, while *araṇya* exclusively conveys the meaning of a wild tract.

and he accordingly divides forests into three classes,—game forests, produce forests and elephant forest (II. 6). The game forests (mṛgavana) are set apart for sport, the favourite royal pastime and for the supply of animal produce, among which are skin, bone, bile, sinew, teeth, horn, hoof and tail (II. 17). Of more importance are produce forests (dravyavana) which are the source of such materials as are necessary for building forts, conveyances and chariots (VII. 14). Foremost, however, are *hastivanas* for it is on elephants that the victory over an enemy depends. The king is required to keep in repair timber and elephant forests and to set up new ones (II. 1). The forests reserved for breeding of elephants are given special attention (II. 2).

Military value of forests:

The Arthaśāstra gives preference to elephant forests for the fighting value of the animal. It lays down, moreover, that "a forest containing a river is self-dependent and can afford protection in calamities," *i.e.*, as a frontier defence in case of war. Hence a king who promotes such forests overreaches his rival (VII. 12). A village with a forest and a river in the border appears as a covetable gift also in the Mahābhārata (pratyāsanna-vanodakam, VIII. 38).[1] On the one hand, the river and the forest act as natural defences. On the other, they help irrigation, conserve moisture and humidity and supply food-stuff and other materials. The forest has thus a double utility; and to the author of the Arthaśāstra the economic objective of forest conservancy is not secondary but only co-ordinate with the military and strategical.

1 *Cf. satiṇakaṭṭhodakam* in Pali literature which perhaps conveys the same sense.

Forest produce:

Forest products (available in the dravyavana) are divided into several groups (varga): strong timber (sāradāru), bamboo type (veṇu), of creeper class (vallī), fibrous plants yielding rope-making material (rajjubhanda), plants yielding leaves for writing material, plants yielding flowers productive of dyes, group of medical herbs (auṣadhavarga), poisonous drugs and fruits (viṣavarga). A catalogue of flora is incorporated under each heading. Animal produce, minerals, charcoal, bran, ashes, menageries of beasts, fire-wood[1] and fodder (*kāṣṭhatṛṇa* may also mean wattle and thatch, *i e.*, building material) also find enumeration (II. 17). With a view to procuring these varieties of forest produce one or several forests shall be specially reserved (II. 2). "The superintendent of forest produce (kupyādhyakṣa)[2] shall collect timber and other products of forests by employing those who guard productive forests (dravyavanapālaiḥ). He shall not only start productive works in forests but also fix adequate fines and compensations to be levied from those who cause any damage to productive forests except in calamities" (II. 17).

The pursuit of the Arthasāstra's ideal would lead gradually to the conversion of forests—which were no man's property—into state monopolies. But this was attended with serious difficulties and the state lacked sufficient resource to master them. The aboriginal fowlers and hunters, who had no land to cultivate and no arts to pursue, had the forest as the source of their living.[3] The forest was also infested and sometimes

1 In the Jātaka stories town and village folk are often seen gathering firewood from adjacent forests.

2 In a Pallava grant of Śivaskandavarman there is reference to forest officers (āraṇādhikata) Ep. In. I. 1.

3 A forester (vanacarako) collects wares produced in forest (araññe upajjanakabhaṇḍaṃ ādāya) and disposes in the city. Jāt. III. 150.

practically dominated by robber-bands of whom the Jātaka narratives are so full. The civil authority was far from competent to deal with these freebooters and ensure security to caravans and travellers, not to speak of dispossessing them of their sylvan haunts (Jāt. I. 437). The very name of the redoubtable Angulimāla made the Magadha king—the conqueror of Kāśī and Vaiśālī—tremble in fear even in the presence of Buddha.

CHAPTER VII

AGRICULTURAL PRODUCTS

Fertility of the soil. The cereals. Single, double or triple harvest. Fruits. Vegetables, Sugarcane, Fibrous crops, Miscellaneous.

Greek testimony ; fertility and food crops:

The Greek writers burst into exuberant praise of the fertility of Indian soil[1] and favourable climatic condition and river-system while describing the multiple agricultural products of the land. "In addition to cereals there grows throughout India much millet.....and much pulse of different sorts, and rice also, and what is called 'bosporum,' as well as many other plants useful for food, of which most grow spontaneously. The soil yields, moreover, not a few other edible products fit for the subsistence of animals, about which it would be tedious to write.....Since there is a double rainfall in the course of each year, one in the winter season, when the sowing of wheat takes place as in other countries, and the second at the time of the summer solstice which is the proper season for sowing rice and 'bosporum' as well as sesamum and millet—the inhabitants of India almost always gather in two harvests annually.....The fruits, moreover, of spontaneous growth, and the esculent roots which grow in marshy places and are of varied sweetness afford abundant sustenance for man. The fact is, almost all the plains in the country have a moisture which is alike genial whether it is derived from the river, or from the rains of the summer season which are wont to fall every year at a stated period with surprising regularity" (Diod. II. 36).

1 Some of them made an exception of the plains *i.e.*, of Sind. The Greek encomium applies best to the Punjab valley and the Ganges doab.

Cereals:

The record of Greek writers is substantially corroborated by the testimony of indigenous works. Rice (sāli) was the staple food of the people and accordingly it was the chief of agricultural products (Str., XV. i. 53f. ; Pliny, XVIII. 13 ; Mil., p. 182 f.). A large variety of the grain is met with. The *kurumbhaka* is a sort of pedigree rice fit for king's fare (Mil. p. 251), and so also is the *kumudabhaṇḍikā* which is grown in Aparānta in one month (p. 292). Among the commoner and coarser varieties are found the *kaṅgu* (Mil., p. 267), red rice (rattasāli, Jāt., V. 37), *kalama* (J. S., II, p. 374), *kodrava* and *pulaka* which, like garlic and onion, cannot be offered in the *śrāddhas* (Mbh., XIII, 91. 38) and *sāmāka, nīvāra, cīnaka* and *taṇḍula* (Jāt., III. 142; V. 405 ; *syāmā* in Mbh., XII. 271. 4) Of the other foodgrains wheat (godhūma) and barley (yava) were the commonest. Pulses of the bean or phaseolus group were widely grown, *e.g.*, *mugga, māsa, varaka* (Mil., p. 267), *kalāya* (Sut., III. 10 ; Arth., II. 24 ; Mbh., XIII. III, 71), etc. There were different species like *khuddakarāja, mahārāja*, etc., under each head (Jāt., V. 37). Other kinds of pulses grown were *caṇa* (oat),*masura* (lentil), *śaivyā* (millet?) and *priyaṅgu* (panic. Arth., III, 24). The different kinds of oil-seeds cultivated for oil-extraction or sauce were sesamum (tila), mustard (sarṣapa), linseed (atasi)—in order of generality, besides the castor oil seed which grew without care. Varieties of other food crops are named which remain unidentified (nispāva, ālisanda, elamiccha, J. S. II, p. 374).

Sowings and harvests :

The Greek writers also affirm that India has a double rainfall and the Indians generally gather two harvests. Megasthenes witnesses the sowing of wheat in early winter rains and of rice, 'bosporum,' sesamum and millet in the

summer solstice (Diod. II, 36). Eratosthenes adds further to the winter crops, *viz.*, "wheat, barley, pulse and other esculent fruits unknown to us" (*cf.* Str., XV. i. 13)[1] The Arthaśāstra evinces thorough acquaintance not only with these two harvests (II. 24, V. 2) but even with a third. A king is instructed to march against his enemy in Mārgaśīrṣa (November) in order to destroy his rainy crops and autumnal handfuls (vāssikaṃ cāsya śasyaṃ haimanam ca muṣṭim[2] upahantum), in Caitra (March) to destroy autumnal crops and vernal handfuls (vāsantikaṃ ca muṣṭim), and in Jyeṣṭhamūla (June) to kill vernal crops and rainy season handfuls (IX. 1). Thus there were three crops—one sown in rainy season and garnered before winter (Mārgaśīrṣa), another sown in autumn and garnered before summer (Caitra) and a third sown in spring and stored by Jyaiṣṭha, *i.e.*, before the monsoon.[3] Elsewhere the Arthaśāstra catalogues the crops of different seasons. Paddy, *kodruva*, sesamum, panic, *dāraka* and *varaka* are sown in the first season (pūrvavāpāḥ), *mudga*, *māsa* and *śaivya* are sown in the second season (madhyavāpāḥ), *kusumbha*, lentil, *kuluttha*, barley, wheat, *kalāya*, linseed and mustard are sown in the last season (paścādvāpāḥ, II. 24).[4] The Milinda speaks

1 In a descriptive passage of the Rāmāyaṇa *śāli*, *godhūma* and *yava* are seen waiting for harvest with the advent of winter. (III. 16. 16 f.) But wheat and barley are winter or *rabi* crops sown in October and gathered at the end of May. Ploughing in autumn is seen in Sn. III. 155.

2 *Muṣṭim*,—probably the handful of seed grains just sown and sprouting in the field. *Sasyaṃ* must be the crops ripe for harvest.

3 *Cf.* Barley "ripened in summer being sown in winter, rice ripened in autumn being sown in the rains, while beans and sesamum ripened in winter and the cool season." Tait. Saṃ, VII. 2.10.2.

4 The *pūrvāvāḥ* and the *paścādvāpāḥ* of the Arthaśāstra agree with our *kharif* and *rabi* crops respectively. Seasonally the *kharif* is the *vāssikam* and the *rabi* is the *haimanam* of the list in Bk. IX, Ch. 1.

as well of a third monsoon (pāvussako) besides the regular rains of late summer and early winter (p. 114). The three monsoons of course did not uniformly visit every part of the country each year ; and whether a locality grew one or two or three crops depended on rainfall, climatic conditions and the soil.

In many places the food crops as well as edible fruits and vegetables grew spontaneously without tillage. To the Greek observers these phenomena seemed strange. The descriptions of the forest scenery in the Epics (Rām. III. 16. 16 f. ; Mbh. III. 157. 44 ff., IX. 37, 58 ff.) and the Jātakas (V. 37 f., 405) frequently go at length over the crops and fruits growing in wild areas without human labour.

Fruits:

The forests yielded a large variety of edible fruits—mango, pomegranate, jack-fruit, banana, date, *vilva*, *kapittha*, rose-apple, jujube, mascot, cocoanut, palm,—these being the commonest and best. Vines, dates and palms were specially grown in the Punjab and the north-western regions now in Pakistan. Pāṇini speaks of Kapisā as the premier vine-growing district of India (also Str. XV. i. 8). Plantains as big as elephant's tusks and jack-fruits as big as water-jars are hyperboles to impress the abnormal growth of the fruits. Many of the arboreal products were unknown to the Greeks as they confessed. It is equally difficult for us to identify

It is stated in the Śāntiparva that during the idealised reign of Pṛthu, 17 kinds of crops were grown by the *yakṣas*, *rākṣasas* and *nāgas* (59. 124), It may be noted that the list of the Arthaśāstra also just amounts to 17 varietits of cereals. The Bṛhadāraṇyaka Upaniṣad which goes back much earlier enumerates only 10 varieties of cultivated (grāmya) grains, *viz.*, *vrīhi*, *yova*, *tila māsa*, *aṇu*, *priyaṅgu*, *godhūma*, *masura*, *khalva* and *khalakūla* (kulattha). VI. 3. 13.

the various names found in descriptive texts and some of the fruits enumerated may have now gone into extinction (Mbh. III. 157. 44 ff.; IX. 37. 58-61; Jāt. V. 405, VI. 527 f.; Āyāraṃgasutta II. i. 8. 1).

Green crops:

Cultivation of vegetables was a pursuit apart from the growing of cereals. "The esculent roots which grow in marshy places and are of varied sweetness," belong to this category. In a forest scene, convolvules, cucumber, pumpkin, gourd and other creepers are found in a luxuriant tangle (tipusa-eḷāluka-lābuka-kumbhaṇḍa vallivanāni, Jāt. V. 37). These green crops were gathered by villagers from the forests and disposed of in the market-place (I. 412). Sometimes these were grown with care. Bodhisatta once earned his living as a kitchen-gardner by growing pot-herbs, pumpkins, gourds, cucumbers and other vegetables (I. 312). A false ascetic similarly cultivated vegetables, pot-herbs and runners in a king's park and vended them to dealers (IV. 445), Between the town and the countryside the green-grocers (paṇṇikaṃ, harīta-paṇṇikaṃ) had a good volume of business (II. 180, IV. 445; Cv. X. 10. 4; Baudh. III. 2. 5 f.).

Sugar-cane:

Cultivation of sugar-cane and the growth of sugar industry was a notable feature of Indian economy. Diodorus is struck by the great heat and abundant moisture which combine to "ripen the roots which grow in the marshes and especially those of the tall reeds" (II. 36). In the Peripuls, among the exports from Barygaza to the African ports is "honey from reed *sacchari* (śarkarā=sugar). These sweet "reeds" were probably grown in the rich alluvial lands, *e. g.*, in the Ganges Doab where Arrian locates the river Oxymagis or Ikṣumatī

which finds mention also in the Rāmāyaṇa (I. 70.3).[1] A grove of sugar-cane of the size of areca-nut tree (pūgarukkhappamāṇaṃ ucchuvanaṃ) occurs in the forest scene of the Jātakas (V. 37).

Fibrous crops:

Among fibrous crops the chief was cotton—"the trees in which wool grows" (Eratosthenes) of which reference in the Jātakas is most common. It was richly grown as now in Surāṣṭra or Kathiawad (Peri. 41). Herodotus describes it as a wool, better than that of sheep, the fruit of trees growing wild in India. Jute and silk of different varieties were also cultivated with care the former being confined mainly to Bengal as now. From about the dawn of the Christian era Indian silk had a prowerful competitor in Chinese fabrics. The growth of flax (khomaṃ) and hemp (sāṇaṃ) was also widely known (Dn. XXIII. 29 ; Mbh. XII. 86. 14 ; Str. XV. i. 13). Pliny attributes to India several edible spices and plant perfumes—spikenard, cinnamon, pepper, ginger, myrrh, etc. (XII. 7.)—we may add, sandal and others.[2] Narcotic drugs like opium, tabacco, etc., and tea and coffee are not found. The main forest products, besides fruits, crops and vegetables "of spontaneous growth", were gums, resins (sarjjarasam), drugs, dyes, lac, tumeric, cutch and myrobolans (āmalaka).[3] The cultivation of lac was particularly wide. Applied in varied industries, it provided maintenance for a large section of urban and rural population.

1 The Uttar Pradesh is still the foremost cane-producing state in India. Statistical returns for 1903-4 show 1,700 sq. miles as against 1,000 in Bengal and 500 in the Punjab. Imperial Gazetteer, Vol. III. p. 39.

2 The location of these products and traffic in them are treated in Bk. II. Ch. IV.

3 See *ante*, Ch. VI.

Vegetables and sowing grounds:

According to the Arthaśāstra sea-beaches and river-banks (lands beaten by the foam,—phenaghātaḥ) are suitable for growing creeper-yields (valliphalam, *i. e.*, gourd, pumpkin, etc.), moist-land (parivāhantāḥ) for long pepper, grapes and sugar-cane (pippali-mṛdvīkā-ikṣuṇāṃ), the vicinity of wells for vegetables and roots (kūpa-paryyantāḥ śākamūlānāṃ), low grounds (hariṇīparyyantāḥ—the commentary explains as the dried bottom of pools) for green crops (haritakānāṃ). The marginal furrows between rows of crops (pālyolapānāṃ) are to be utilised for growing varieties of plants and herbs of perfumery, materia medica, etc. The manures known to the Arthaśāstra are dung and bones of cows, minute fishes and milk of *snuhi* (Euphorbia Antiquorum, II. 24).

Rotation of crops was known from very early times, by fallowing (Ṛv. VIII. 91. 5f.) and by sowing different crops alternately (Tait. Sam. V. i. 7. 3) so that the soil is not impoverished (Yuktikalpataru, 41 f.).

CHAPTER VIII

FAMINE AND IRRIGATION

Megasthenes on famine. Growth of famine. From prayer to action. Preventive measures, Drought and flood,—irrigation, Double harvest. Wholesome laws of war. Live pests and their remedies. Blights. Over-population.

Ameliorative measures. Agricultural loans, relief-works, famine insurance fund. King's responsibility. People's responsibility.

Ancient and modern famine problems.

Megasthenes on famine :

Diodorus, on the authority of Megasthenes describes India as a land of perennial plenty of which the secret lay in its admirable irrigation and river-system, a double rainfall, natural fertility of the soil and wholesome war-practices. "It is accordingly affirmed that famine has never visited India and that there has never been a general scarcity of the supply of nourishing food" (II. 36).

Without doubt the assertion is too categorical. It would now be unnecessary labour to call piles of evidence to run it down. Instead of taking the statement itself too literally, one may turn with profit to the causes for plenty adduced by the foreign observer. Examined in the light of these and checked by the cumulative evidence of indigenous literature it boils down to the facts that in the last quarter of the 4th century B. C. there was no famine in Magadha worth the name[1] and

1 Reference has been made by a scholar to a Jaina Inscription in Śravaṇa Belagola in Mysore which records a tradition that in the time of Candragupta Maurya a Jaina saint prophesied a twelve year calamity or famine in Ujjainī and that Candragupta in dismay

that famine had not yet grown into a major agrarian problem as in the Hellenic world.

Famine in early Buddist literature :

The earliest famine cry echoed in the Ṛg-veda reflects a patriarchal society with primitive methods of irrigation afflicted by periodical droughts but with an abundant reserve of flora and fauna to fall back upon. Instances furnished by the oldest Buddhist records are apparently parochical and of short duration. Famines (dubbhikkha) are referred to in the cities and a 'heavy mortality' pithily appended, but the accounts are rare and brief. Famine-stricken people are pictured as taking the flesh of elephant, horse, dog and snake (Mv. VI. 23. 10ff.), animals which appear among the normal diet of other racial groups. Elsewhere the people of Vesāli are seen praying to the *bhūtas* for relief against drought and plague (Sut. II. i) and the description of the havoc occurs only in the commentator's introduction of centuries later. A common test of famine affliction is that people fed not the whole congregation as was customary but only select *bhikkhus* by ticket (Cv. VI. 21. 1). Etymologically the word 'dubbhikkha' (when even alms are scarce) does not connote heavy mortality and the early Pali accounts are far more moderate than the harrowing details of later literature.

abdicated and followed the saint (M. H. Gopal: *op. cit.*). Before giving credence to this piece of evidence, three points should be noted: (1) as pointed out by Fleet, 'vaiṣamya' should better be rendered as 'difficulty' than as 'famine' (Ep. In. IV. 2), (2) it is written at least 800 years later than the time it professes to record, (3) it is coloured by priestly motive and the duration of the calamity,—recalling the conventional Epic figure, suggests it to be a legendary version of a minor drought, if it is at all to be credited with any truth.

In the Jātakas :

The Jātakas show how famine stories were finding place in popular imagination and folk-lore. "For the space of three years he (Sakka) stopped rain from falling in the kingdom of Kāsi and the country became, as it were, scorched up, and no crops came to perfection" (V. 193f.). In Kosala once there was a drought so that crops withered and water dried up in tank and pool and "fishes and tortoises buried themselves in the mud" (1. 331). Elsewhere the people of Kalinga are said to have taken to robbery under the stress of famine (VI. 487). Another Kāsi famine was so severe that even crows had to quit the land for men had no food to spare (II. 149). The intensity and proportions assumed by famine may also be gauged from the reference that pestilence may follow in its wake (II. 367).

In the Epics :

A definite stage in the spread and intensification of famine was the destruction of the primeval forests, the great natural reservoirs of rain which "kept the fruit of the summer's rain till winter, while the light winter rains were treasured there in turn till the June monsoon came again."[1] The Epics narrate the working of extensive schemes of colonisation and deforestation (Rām. II. 80 ; Mbh. 1. 230 ff., IX. 41, 14, X.10.5) which in course of their progress extended the rigour, recurrence and area of scarcity to make it a calamity of first magnitude.

The *ākhyāna* portions of the Epics which generally represent later strata on the original themes show acquaintance with this problem in an aggravated form. A famine compelled the sage Viśvāmitra to abandon the land and his wife who was maintained by Mātanga, then a hunter (Mbh. 1. 71. 31). Droughts continued for many years at a stretch (vahuvārṣikī)

1 Washburn Hopkins, *op. cit.*, p. 231.

extending up to ten or twelve, have found indelible impression in public memory. The Rāmāyaṇa alludes to a hermitess who created fruits and roots and caused the Jāhṇavī to flow when the earth was parched by a ten-year drought (daśavarṣā-nyanāvṛṣṭyā-dagdhe loke nirantaram, II, 117. 9 f.). The Kuru famine in Samvaraṇa's reign was the result of a twelve years' drought (anāvṛṣṭi-rdvādaśavārṣikī)[1] to which even animals and trees had to succumb and the capital looked like a city of ghosts (Mbh. I. 175. 38-46). Another twelve years' drought in the regions about river Saraswatī caused great affliction to the *ṛṣis* (IX. 51. 22 ff.). But the most doleful description of a twelve years' drought in the Epics runs as follows:

Not even dew-drops could be seen what to speak of clouds. Lakes, wells, and springs were dried up. The assemblies and charity foundations suspended their business. Sacrifices were in abeyance. Agriculture and cattle-rearing were given up. Markets and shops were abandoned. Stakes for binding sacrificial animals disappeared. Festivals died out. Everywhere heaps of bones were seen and cries of creatures heard. The cities were depopulated, hamlets burnt down. People fled from fear of one another or of robbers, weapons and kings. Places of worship were deserted. The aged were turned out of their houses. Kine, goats, sheep and buffaloes fought and died in large numbers. The Brāhmaṇas died without protection. Herbs and plants withered. The earth looked like trees in a crematorium. In that dreadful age when righteousness was at an end, men bereft of sense in hunger began to eat one another (vabhramuḥ kṣudhitā marttyāḥ khādamānāḥ parasparam,—XII. 137.24)[2]

1 Seeing the picture as it is, it is nonsense to suggest for the phrase the meaning "the drought that comes once in every twelve years."

2 The concluding phrase may mean that the people took to

These figures and depictions, legendary as they are, conjure up protracted droughts and famines afflicting backward areas[1] and taking a heavy toll of life. The good old days when there was no fear of hunger (kṣudhābhaya) when rains showered in due time and the produce was juicy (kālavarṣī ca parjanyaḥ śasyāni rasavanti ca) had gone for ever and remained only to be recalled with mournful yearning (Mbh. I. 68. 8-10).

In the Arthaśāstra and the Dharmaśāstras :

The Arthaśāstra catalogues fire, flood, pestilence, famine and *maraka* as providential calamities (daivapīḍaṅam, VIII. 4). It may also be observed that Kauṭilya's teacher who spoke from experience of an earlier regime thought pestilence as a graver catastrophe than famine, and he is controverted by his illustrious pupil to the effect that the evils of pestilence are localised and remediable, of famine countrywide (sarvadeśa-pīḍaṇam) and costly to life (prāṇīnāmajīvanāy' eti). The legal injunction on the inviolability of women's property (*strī-dhana*) is relaxed in case of famine when the husband may consume it without obligation to refund (III. 2 ; Yāj. II. 143). Manu slackens the caste rules on food, etc., during famine and allows inferior callings to be pursued by higher orders (X. 97). In the law-codes famine or hunger became one of the recognised causes of slavery.

plunder and rapine on the goods of others and not actually to cannibalism. Moreover, as it is a 12 years' drought and at the transition from one cycle to another (*tretā* to *dwāpar*) a good margin may be left for priestly padagogy. There is a similar though less elaborate picture of a drought lasting many years (*vahuvārṣikī*) coming as nemesis of the evil cycle (*kaliyuga*) and as prelude to the cosmic deluge (III. 187, 65ff.).

1 Like the arid plains of Sind and Rajputana. From Epic and Jātaka evidences, the Kuru land appears as notorious for famine.

From prayer to action :

Thus with the clearance of forests, increase of population and rise of class divisions, famine became a major agrarian problem before the dawn of the Christian era: and princes and people turned after bitter travail from fast and prayer to mechanical devices against drought and flood. Though irrigation is not unknown in the Ṛg-veda (X. 68, 1; 99. 4; 25; 93. 13), its hymns dilate less on plucky and gallant struggle with nature than on prayers and magic directed to Indra the rain-giver (III, 8 ; VIII. 118. 55 ; X. 42). Coming down to the Atharvan poet we find him also praying that the sun, lightning and excessive rain may not ruin his crop and devise charms for the same purpose (VII. 11 ; IV, 15 ; VI. 128). Passing on to the earliest Buddhist literature, a gradual change in outlook is marked,—when states and peoples awaken to action. By careful diagnosis of the causes of famines and injury to crops, they begin to explore specifics and apply preventive and remedial measures instead of trusting over-much on the humour of the gods.

Irrigation,—in Pali works and Epics :

The typical herald of famine in those days was drought, and its only redress is planned irrigation. In Buddha's time the *khettas* of Magadha were intersected by a network of canals and ridges,—rectangular and curvilinear which marked the boundaries of arable plots[1] and which resembled a patch-

1 Literally—"divided piecemeal (accibandhaṃ—Buddhaghosa's note 'caturassakedarakabaddham' is insufficient. A raywise division would not help distribution of water) and in rows (palibandhaṃ—Buddhaghosa has 'āyāmato ca vittharato ca dīgha mariyādabandham') and by external ridges (mariyādabandham—Buddhaghosa gives 'anatarantarāya mariyādāya mariyādabandham') and by cross boundaries (singhāṭakabandhaṃ—Buddhaghosa explains 'mariyādam vinivijjhitvā gatatthāne singhāṭakabandhaṃ. Catukkasaṇṭhānanti attho')"

work robe (civara) such as is prescribed by Buddha as a pattern for the order being the least covetable thing (Mv. VIII. 12. 1-2). Watering projects were undertaken by specialists who "conducted the water as they pleased" (udakaṃ hi nayanti nettikā, Dhp. 80, 145 ; Therag. 19. 877).[1] The operations were designed to regulate the inflow and outflow of water in the *khetta*s after the sowing (udakan atinetabbaṃ.....atinetvā ninnetabbaṃ, CV. VII. 1. 2, *cf.* V. 17. 2). The canals and tanks were apparently dug by co-operative effort and for co-operative irrigation (Jāt. I. 199f., 336 ; V. 412). In the Epics the sense of royal responsibility is manifest in the matter. "Are large and swelling lakes excavated all over thy kingdom at proper intervals without agriculture being in thy realm entirely dependent on the showers of heaven?"—So says Nārada to Yudhiṣṭhira in his discourse on administrative principles (kaccid rāṣṭre taṭāgāni pūrṇāni ca vṛhantī ca: bhagaśo viniviṣṭāni na kṛṣi-*r*devamātṛkā, Mbh. II. 5.77). Rāma eulogises the land of Kośala as *adevamātṛkaḥ*, i.e., relying on irrigation and not on rainfall (Rām. II. 100. 45) and the Arthaśāstra uses the same epithet to describe the qualities of a good country (VI. 1). The advance made in irrigation may be imagined from the anecdote that when a teacher sent his pupil to stop a breach in the water-course of a certain field, the latter had to lie down to stop the flood and prevent serious damage to the crops (Mbh. I. 3). The position is confirmed by a parable the implication of which is that guards were em-

1 "The *nettikā*s, to judge from the commentary and from the general purport of the verse, are not simply water-carriers but builders of canals and aqueducts who force the water to go where it would not go by itself"—Maxmüller's note in the Dhammapada, S. B. E. series.

ployed at the vital spots of embankments, the rupture whereof would cause a great flood and damage.[1]

In the Arthaśāstra :

But the Jātakas and the Epics do not shed off the belief in the dispensation of Sakka or Indra who held the key to their garner from heaven. Lawbooks of post-Christian compilation encourage irrigation enterprises by kings and peoples with the lure of divine reward (Vis. XCI. 1 f. 9 ; Vāś, XVII. 8. ; *cf.* Vṛ. XIV. 28). The Arthaśāstra marks the evolution of a completely economic outlook. Except for a formal chanting of Vedic *mantras* (II. 24), the author concentrates on various precautionary measures among which the largest attention is given to irrigation. In Buddha's time irrigation contrivances hardly excelled the old Vedic mechanisms ; water was drawn by means of the lever,[2] the bullock-team[3] or the wheel and axle[4] (Cv. V. 16. 2). The Arthaśāstra evinces a mature engineering skill. Great caution and experience are required of the cultivators in order to use properly its irrigation projects (II. 9). The offender who breaks the dam of a tank full of water (udakadhāraṇaṃ setuṃ bhindataḥ) shall be drowned in that very tank (IV. 11; Manu, IX. 279). Its irrigation methods by means of mechanical contrivances and air power are corroborated in a later Pallava plate[5] and in the Śukranī-

1 The king should be vigilant at danger-gates as at the dam of a large water-work—āpaddāreṣu yuktaḥ syāj-jalaprasravaneṣviva, Mbh. XII. 120. 8.

2 *tulaṃ.*

3 The reading differs between 'karakaṭaka,' 'karakaṭanka' and 'karakaḍaka.' Buddhaghosa explains—'vuccati gīe vā yojetvā hatthehī vā gahetvā dīgha varattādīhi ākaḍḍhanayantaṃ.

4 *Cakkavattakaṃ,* Buddhaghosa's note—'arahattaghaṭiyantaṃ' is not clear.

5 Ep. In. V. 8.

tisāra (II. 320-24). The costly and perfected water-works necessitated the levy of a graduated water-rate (udakabhāga) and the testimony of the Śukranīti is concurrent (IV. ii. 227-29). But if such works are dug by peoples themselves, nothing should be charged until they realise profit twice the expenditure (Arth. III. 9; Śuk. IV. ii. 242-44). This provision laid down with slight variation by two outstanding treatises on political economy separated by at least nine hundred years is a most eloquent testimony to tradition and its influence on sociological development in ancient India.

In inscriptions :

Later epigraphic records supply copious illustrations of private and state enterprise. Instances in early inscriptions are few and far between. Still we do not altogether lack examples of private initiative for sinking wells and reservoirs under royal encouragement. The Ara inscription of Kaniṣka II alludes to "a well dug by Dasafota...for the welfare of all beings" on which the king threw a lac as a religious gift. An Andhra inscription of Sri Pulumāyi's reign (identified by Sukthankar with Pulumāyi II) speaks of a well sunk by a *gahapatika* (Ep. In. XIV. 7, 9). As protagonists of irrigation schemes, the Mauryas do not stand on Aśoka's Edicts alone. They took a vigorous interest in the irrigation of the countryside. Megasthenes enumerates a class of officers distinguished from those entrusted with the administration of the city and of the armed forces who "superintend the rivers, measure the land, as is done in Egypt, and inspect the sluices by which water is let out from the main canals into their branches, so that everyone may have an equal supply of it" (Str. XV. i. 50). The Junagadh Rock Inscription of Rudradāman states how the Sudarśana lake excavated at the foot of the Girnār hills by the governor of Candragupta Maurya,

restored and adorned with conduits by Aśoka's governor, had subsequently an enormous breach and was dried up; and "when the people in their despair of having the dam rebuilt were loudly lamenting" (punaḥ setubandha-nairāsyāt hāhā-bhutasu prajāsu), the Śaka prince undertook the reconstruction in the teeth of ministerial opposition with a large outlay of capital and furnished the lake with a "natural dam, well-planned conduits, drains, and means to guard against foul matter."[1] The dimensions of the dam (420 cubits × 420 cubits × 75 cubits) give an idea of the vastness of the reservoir, and this was constructed by the Mauryas even in an outlying province. The lake ran into distress again during the reign of Skandagupta when the dams were broken because of heavy rainfall and the governor Cakrapālita repaired the breach spending a large sum of money. King Khāravela of Kalinga claims to have similarly strengthened the embankments of springs and lakes at a large expense,—in the famous inscription of Hathigumpha. And Rudradāman was not the solitary instance of his race in magnificent irrigation enterprises. A Sanchi inscription of the third century A. D. records the excavation of a well by a Śaka chief (mahādaṇḍa-nāyaka) of perennial water-supply for all (salilaḥ sarvādhi-gamyaḥ sadā); and an inscription of the second century in Kathiawad says that a general (senāpati) of the time of the Kṣatrapa Rudrasiṃha caused a well to be dug and embanked in the village of Rasopadra for the welfare and comfort of all living beings (sarvasatvānāṃ hita sukhārtham).[2]

Irrigation and flood :

The irrigation schemes provided not only against drought but also against flood and excessive rainfall. Though flood

1 Ep. In. VIII. 6. Cf. Cv. V. 17.2 for similar contrivances.
2 Ep. In. XVI. 16 f.

figures in Vedic prayers, among providential calamities (*daivapīḍanam*) of the Arthaśāstra and among the *ītayaḥ* of the Mahābhārata (V. 60. 17), quoted from the Purāṇas[1] as forerunner of famine, flood is overshadowed by drought always. In those days, when the river system had probably its natural flow and was not silted up as now, flood did not pay an annual visit with the monsoon. In the Jātakas there is a solitary case of grains being washed away in the rainy season but obviously the *khetta*s were not flooded, for "the corns had just sprouted" (sassānaṃ gabbhagahaṇakālo jāto) and the villagers expected a fair harvest if they could hold on for two months (II. 135).[2]

In the introduction to the Mahāsupina Jātaka is narrated how at the sign of desired rain "men shall go forth to bank up the dykes with spade and basket in hand" (purisesu kuddālapiṭakahatthesu āliṃ bandhanatthāya nikkhantesu—I. 336). The implication is same in the Mahābhārata simile recalling the uselessness of closing the embankments after the water is let out (gatodake setubandho—VIII. 86. 2). The Rāmāyaṇa allegorically refers to dykes releasing rain water (praṇālīva navodakam—II. 62. 10). In the Milinda the *khetta*s are seen provided with sluices (mātikā) to bring in water and embankments (mariyāda) to keep the water in (p. 416). The control over inflow and outflow of water appears in the irrigation process of the Vinaya passage quoted above. It seems that the ditches cut across the embankments raised around the plots, to be watered from tanks, wells and rivers in case of drought, to let out surplus water during excessive rainfall, and in times of rain after prolonged drought the gaps

1 These are six calamities of husbandry, *viz.*, drought, flood, locust, rat, bird and foreign invasion.

2 Flood is referred to in Mv. III. 9. 4; Mn. I. 187; Mil. P. 177.

in the embankments were sealed up to hold the water for the sun-burnt plots almost exactly as peasants do to-day.

But freaks of nature were not conquered by the mechanic's art. To illustrate the superiority of Providence over human effort, Kṛṣṇa cites to Arjuna the case of artificial watering schemes (āsekam) which cannot effectively counteract the havoc of drought. As a matter of fact, human ingenuity is only a measure of the precariousness of life. It develops though always beaten, with the growth of the problem which it is called upon to answer ; and hence it is that the history of Kashmir between the eighth and tenth centuries simultaneously present the miraculous engineering feats of Śakuna and Suyya as well as the most harrowing tale of death from flood and famine bequeathed from antiquity.[1]

Two harvests :

Of course the Indians gathered two harvests annually and this is not told by foreigners alone.[2] The Milinda even speaks of a third monsoon (pāvussaka ?) in the year besides the rainy season proper and the early winter rains (p. 114). So does the Arthaśāstra. It recommends the compulsory raising of a second crop by the cultivators as a last resource for taxation (V. 2). After a meteorological dissertation it charts the crops in order of the quantity of rains required for each and instructs cultivation of scheduled crops with a forecast of the rains (prabhūtodakam alpodakam vā śasyam vāpayet, II. 24)

1 Rājataraṅgiṇī, V. 271-77.

2 Diod. II, 36 ; Str. XV. i, 13. *Cf.* 'karmodakapramāṇena kedāram haimanam graiṣmikaṃ vā śasyam sthāpayet.'—Arth. II, 24. 'pubbaṇṇa paraṇṇāni ca vapantā,' Jāt. I. 339.

Belligerent laws :

The peculiarly Indian belligerent custom which removed another prolific source of famine, in deference to which hostile parties spared husbandmen and cultivated land as inviolable[1] and "neither ravage an enemy's land with fire, nor cut down its trees," struck the Greek visitor,—for in the Hellenic world and in every land and in every age, famine has followed in the trail of a civil war or an international war of attrition. An international law, however, depends for its observance in the last resort on the good sense and enlightened self-interest of states. And it will be too much to think that in ancient India all the princes and statesmen were far-sighted enough or guided by humane principles. In fact, foreign invasion is included in the Purāṇic list among the enemies of crops and the Machiavellian author of the Arthaśāstra would not spare an enemy's corn-fields when strategical considerations urged such a measure (IX. 1). Destruction of enemy's crops (vīrudhaśchedana, śasyaghāta) is repeatedly enjoined also in the Śāntiparva as a maxim of *rājadharma* (59. 49; 69. 38; 103. 40; 120. 10). But these exceptions must always be allowed in international code and the Greek testimony need not be totally dismissed solely on the score of the latter.[2] There are no historical instances of native forces who "devastate the land and ruin the crops of their enemies." In the Rāmāyaṇa is related how the *vānara* host marching to Laṃkā along the Eastern Ghats kept the cities and countryside (janapada) at arm's length out of fear for Rāma's terrible discipline (VI. 4. 38). A

1 Husbandmen are exempt from fighting and other public services. They are inviolable even in time of war ; "being regarded as public benefactors are protected from all injury." Diod. II, 40 ; Str. XV. i. 39-41, 46-49.

2 Washburn Hopkins, *op. cit.*, p. 247.

Pāṇḍya inscription of the 9th century A. D. preserves an agreement entered into by local chieftains with the headman of a village or a group of villages, by which the former solemnly undertook when they and their retainers were fighting, to avoid inflicting any injury upon villages or their property and promised to pay compensation of 100 *panams* for any injury to a cultivator and 500 *panams* for the destruction of every village.[1]

Live pests, blights, over-population :

Other factors occasionally aggravated scarcity or destroyed crops over a small area. Depredations of live pests called for serious attention. The Atharvaveda prepares spells for the extermination of vermins and insects (IV. 50, 52). The Chāndogya Upaniṣad says that locusts (mataci) blighted the face of the Kuru land by ruining its crops so that a sage had to move to a neighbouring country along with his wife and live on sour gruel (kulmāsa, I. 10. 1-3). Locusts (śalabhāḥ) swarming upon a corn-field appear in Epic similes (Rām. VII. 7.3 ; Mbh. VIII. 24.22). Gobhila prescribes sacrifices at molehills to the king of moles (ākhurāja,—Gṛhyasūtra, IV. 4.34). In the Arthaśāstra rats figure as a veritable nuisance for which no better remedy is devised than rearing of cats. Birds, beasts and thieves caused much annoyance and necessitated the employment of field-watches of which the Jātakas contain many examples. In one case a plot entrusted to a watchman is ravaged by parrots before his nose (IV. 277 ; *cf.* V. 336). The peasants are constantly preoccupied against the forays of deer-herds in harvest time (I. 143, 153, 154 ; IV. 262). The fowlers and hunters rendered a social service by the destruction of these pests and if Megasthenes' evidence is to be credit-

1 Report on the Progress of Epigraphy in Southern India, 1914-15, —quoted in Havell's Aryan Rule in India, p. 221.

ed, they received in Maurya India a subsidy of grain from the king for the salutary job (Str. XV. i. 41). Corns might be destroyed by hailstorm (aśmavṛṣṭi, Rām. III. 34.39 ; karakavassaṃ, Mil. p. 308). A corn disease called *setaṭṭhikā*[1] (blight) sometimes spoiled rich rice-fields reducing the plants into sticks as another called *mañjeṭṭhikā* exterminated sugar-canes (Cv. X. 1.6 ; An. IV. 279) and caused famine and mortality (dvihitikā setaṭṭhikā salākāvuttā, Vin. III. 6.15, 87 ; IV. 323 ; An. I. 159; Sn. IV. 323 ; dussassaṃ setaṭṭhikaṃ salākavuttam, An. I. 160). Over-population may have occasionally caused shortage of food for which the Arthaśāstra prescribes reclamation and colonisation of waste land[2] (svadeśā-bhisyandavamanena, II 1).

Agricultural loan:

Proceeding from the prayers and spells of the Vedas and fasts and moral vows of the Jātakas we discern in later literature the evolution of a medley of precautions and cures from a strenuous grapple with the food problem,—ranging from pettiest nostrums to the most effective relief-schemes. The passage quoted above from Nārada's admonitions continues: "If the food or seed-grains of the agriculturists fall short, do you grant with kindness loans unto them at the rate of 1 p.c.?"

Kaccinna bhaktaṃ vījañca karṣakasyāvasīdati
Pratyekañca[3] śataṃ vṛddhyā dadāsyṛṇam anugraham
Mbh. II. 5. 78.

1 A borer pest (pāṇako) which blights the head of paddy unable to get the sap, Commentary.

2 The Śāntiparva exhibits the recognition of the reclamation and fertilisation of waste land as among the highest duties of a king (Nīlakaṇṭha explains *'bhūsaṃskāram'* as *'bhuvaḥ sampanna śasyatvam.'* 65.2).

3 Variant *pādakañnca.* This would make the interest 25 p.c. instead of 1 p.c. But according to the commentator, the former is the annual rate, the latter the monthly rate.

In the Arthaśāstra agricultural loan advanced by the kings is called *āpamityaka* and its accounts are supervised by the Treasurer (II. 15). The king shall also distribute seeds and provisions gratuitously in famine (vījabhaktopagraham)[1] or he may inaugurate relief works in forts and set up irrigation schemes. Doles may be given either from his own reserve fund, or from the amassed store of the rich who must be mercilessly taxed (karṣaṇam) and despoiled (vamanam, IV. 3). This idea of progressive taxation of higher income and expropriation of hoarded wealth in a national crisis, so curtly asserted in the Arthaśāstra, does not stand in isolation in Indian political economy. The administrative theory embodied in the oft-quoted dictum that the king is the devourer of the rich (Mbh. III. 2, 39 ; Rām. I. 53. 9 f. ; Jāt. III, 302) when applied by a judicious ruler could take no other form. This communistic doctrine, was dangerous in a rapacious or irresponsible hand. Applied with justice and moderation it conduced to partial equalisation of wealth and modification of hardship by its distribution over the whole of society.

Loans of provision and gratuitous relief were distributed by royal, private or corporate endeavour. A fragmentary and mutilated *terra cotta* inscription found in Mahāsthān records the order of a Maurya prince to the Mahāmātra of Puṇḍranagara directing the latter to help famine-stricken *samvaṃgiyas* with loans in cash (gaṇḍaka) and corn (dhānya) which they are to repay in better days to the royal treasury.[2] The Sohgaura Plate, supposed to be an early Maurya document by K. P. Jayaswal and by Fleet records an order of the

1 *Cf.* Jātaka IV. 132, where a king distributes food money (bhattavetanam) in the city "without least neglect to anybody."

2 Ep. In XXI. 14. This sense is gathered by D. R. Bhandarkar with some diffidence. B. M. Barua draws out a completely different meaning in Indian Historical Quarterly, Vol. XX.

Mahāmātras of Śrāvastī to the effect that certain store-houses (koṭhagalāni) at Triveṇī, Mathurā, Cañcu, Modāma and Bhadra are to be opened to cultivators in seasons of distress.[1] In the Gahapati Jātaka, the villagers obtained an ox for loan from the *bhojaka* on condition of repaying in kind from the next harvest (II. 135). In the Kalpadruma Avadāna, the rich men of Śrāvastī collectively undertook to feed the famine-stricken. The charity foundations of the pious rich, royal and private, frequently described in the Jātaka stories and the inscriptions had a pressing job for amelioration.

A healthy policy of embargo on food grains as an emergent measure is indicated by Medhātithi who cites the instance of crops during famine to illustrate Manu's rule against the exportation of articles forbidden by the state to be taken out of the country (VIII. 399). As a last resort the Arthaśāstra suggests the migration of the population *en masse* to a land of rich harvest or where water is available (IV, 3: VII. 4; XIII. 1).

Agricultural policy,—famine insurance :

The surest guarantee against famine inculcated by every shade of thought upon rulers as the first lesson of statecraft was an enlightened revenue policy. The protection that was the king's duty in return for the *ṣaḍbhāga* was not only protection of life and property, but ensuring the harvest and insuring against famine. In Rāma's administrative discourse to Bharata it is one of the basic principles of statesmanship to subsidise cultivators for their prosperity (teṣāṃ guptipanhāraiḥ kaccit te bharaṇaṃ kṛtam, Rām. II. 100, 48). In the Dīghanikāya a chaplain advises a king that the proper approach towards diminution of crime is not taxation and punishment but subsidising cattle-rearers and farmers with fodder and seed-corn (V. 11). The forts that are found in the

1 Ep. In. XXII. 1.

Epics stocked with wealth and all sorts of food grains served a double purpose of defence of the realm against mortals and against gods. A passage in the Nītivākyāmṛtam of Somadevasūri enjoins by implication that the king should accumulate grain as a safeguard against famine (VIII. 6) and the Arthaśāstra explicitly directs the king to earmark half the store collected by him for an insurance fund against public calamities (arddham āpadarthaṃ janapadānāṃ sthāpayet, II. 15.).

King's responsibility in famine:

An interesting sidelight on the prevailing mode of ventilating grievances and the idea of royal responsibility and attitude during famine is thrown by certain typical passages of the Jātaka stories. When the crops fail from drought, the victims flock to the capital, gather in the palace courtyard and make a row or wait in deputation. The king appears on the balcony and is charged for drought. He gives sympathetic hearing to the spokesmen, dismisses the hunger-marchers with assurances and observes fasts and the moral code which however, do not avail. Although the stories end in inevitable anticlimax—practising of *kuru* piety, breaking of an ascetic's virtue or a white elephant ultimately causing rainfall (II. 367 ff., V. 193f, VI. 487), they testify to an exalted conception of trusteeship of the rulers which was less vaunted but more observed than now. A king agrees to lend his daughter for the breaking of an ascetic's virtue and bringing rains. "Thus for the protection of his realm did he talk with his daughter even of such things as should not be uttered and she readily acceded 'very well'."

Evaṃ sā dhītara saddhim akathetabbam pi rāṭṭhaparipālanaṃ nissāya kathesi. Sā'pi 'sādhū' ti sampaṭicchi.

The origin of the idea of king's responsibility is in the conception that rain is produced by sacrifice (yajñād bhavati

parjanyo, Mbh. VI. 27. 14). The king protects sacrifices, sacrifices please gods and the gods give rain (I. 41. 29f., VII. 55. 42). Hence there are no rains and no harvests in a kingdom without king (I. 105. 44 ; Rām, II. 67. 9) or with an absentee king. (Mbh. I. 175. 38ff.) or of which the king violates the code of piety (III. 110) even to the extent of delivering a refugee to a foe (V. 12, 19). It is however not always merely sacrifices and abstract piety but good government in the concrete manifested in benevolent and impartial administration, protection from internal pests and foreign foes, irrigation works and judicious revenue policy that act as safety valve against famine and its precursors (II. 13. 12, 33. 5). This realistic notion is implied in the grouping of famine and pestilence with robbers who make favourite haunts of misgoverned kingdoms (VII. 95. 25). At any rate, the association of sovereign responsibility with public calamities had a firm and ubiquitous hold on popular mind[1] so that it was high tribute to a king's administrative ability and a token of divine favour on him to affirm that in his reign there was no famine.

Denunciation of unrighteous rule in sacred books, Brāhmaṇical and Buddhist, was no doubt a priestly threat devised for checking errant kings. But since unjust taxation is the most notorious violation of the divine law, the theory no longer remains a clerical myth but becomes an economic fact. When Buddha prophesied famine as nemesis of unrighteous rule,he feared that kings would be "crushing their subjects like sugar-canes in a mill" (ucchuyante unchuganṭhikā viya manusse pīḷentā), a choice and oft quoted imagery

1 A much later Tamil piece detailing the onerous obligation of sovereigntv, proclaims that the king "is to blame if the rains fail" See S. Krishnaswami Aiyengar, Ancient India, p. 69.

(Jāt. I. 339, II. 240). Instances are there of rulers who impoverished their subjects with fleecing demands. To guard against this danger, economists and law-givers of all schools and denominations standardised the land revenue at 1/6 of the produce (or profit ?) to be maintained with some elasticity considering the taxable capacity of the tenants and the needs of the state. The author of the Arthaśāstra, in his laborious search for means to fill the royal exchequer, does not forget to warn emphatically against collecting a tax which is not ripe, *i.e.*, which shall spoil the very source (V. 2), and to prescribe remissions (parihāram) of cultivator's taxes in emergency (II. 1). This legal injunction was meant to be observed during drought (Mbh. XIII. 61. 25). The fact that they paid only a tax on produce or profit and no rent on land eliminated a fruitful source of oppression and enabled them to tide over a crisis unencumbered by an additional burden from above.

Peoples' responsibility :

If the king had to maintain a high standard of personal conduct to keep off famine, that does not mean that the people had a free licence. The gods might suspend the rains owing to the unrighteousness of the people (An. I. 160, II. 75) or for the neglect of Brāhmaṇical rites (Ch. Dhp. p. 111). On the obverse, pious men may call a downpour from the sky by their observances (Mil. p. 120). Famine could never visit Śākadwīpa because people were virtuous there (Mbh. VI. 11. 10 f.). The piety of Arundhatī dispelled a terrible twelve years' drought (IX. 48. 40).

Ancient and modern famines :

Thus the ancients suffered under and fought gamely against the arch-peril of food-crops. Amidst the diversity

of time and local conditions, famine conditions were broadly the same due to the somewhat uniform land revenue system and administrative maxims and to the absence of communications. The frequency and rigour of famine, despite the harrowing details with which they are at times enlivened—these must be read with proper discount for popular and poetical love for magnifying memorable events,—differed materially from modern conditions.[1] The severe outbreaks of scarcity in ancient times were incorporated as object lesson in tradition and folklore because they were exemplary visitations from Heaven coming at long intervals to punish the accumulated vice of princes and peoples ; while even seventy-five years from now, it was ascertained by examination extending over 110 years that an extreme famine—be it noted, of such mortality as was perhaps not known in ancient India,—in one Indian province or locality may be expected once in 50 years and that drought, followed by acute distress, comes by routine once in 11 or 12 years.[2] As for the alertness of state and people for redress the pet phrase of 'oriental stoicism' is more appropriate to modern times than to remote antiquity. Excavation of irrigation canals under corporate initiative was not unique but habitual affair. The ideas of remission of taxes and advance of loans which did not dawn

1 For opposite view see Washburn Hopkins, *op cit.*

After drawing up a laborious list of famines from ancient literature beginning from Vedic texts, a scholar derives that 'famines were far more frequent and destructive in former centuries than at present' (p. 242). To appraise the *dvādaśavārṣikī* and *vahuvārṣikī* famines of the Epics at their face value and give them the credit of sober historical narratives is preposterous. It might be noted that even 100 years' droughts figure in Indian literature (Bhāgavatam, 7. 28.22) See P. N. Ramaswami, Early History of Indian Famines, in Indian Antiquary. Vol. LII.

2 Madras Administration Report, 1885. Vol. II, pp. 470 f.

until 1880 to the Indian Government[1], throve with Indo-Aryan economists earlier than the Christian era; and so did the scheme of famine insurance fund which was taken up by our rulers as late as about the close of the last century[2], and then left again as a dead letter.

So in a way, Megathenes stands vindicated against the charge of mendacity. Famine as we know it, was unknown to our early ancestors, famine nurtured in our country by over-assessment of holdings, costly administration, over-population, insufficient irrigation work and the vagaries of a river system which stand in need of control by means of canals and embankments[3]. But even these do not account for the dislocation of the old agrarian system and the ruin of the cultivator. Thanks to the tenancy legislations of British rule the ryot lost three protective girdles which he had enjoyed in the past,—the laws and customs that prevented alienation of holdings; assessment at a share of the produce or profit[4] of cultivation whether in crops or cash which implies *ipso facto* no crop no tax ; and limitations to usury imposed by tradition and sacred law. Obliged to pay the rent and fixed tax in money whatever be the state of harvest and price of crops he was easily drawn into the coils of the money-lender and had to sell or mortgage his land whenever the crops failed. This process led to progressive pauperisation of the ryot, sucked his staying power and rapidly reduced him to a serf bound down for wage or share of produce in his own patrimony alienated to his landlord or moneylender and left him under the grip of perennial famine.

1 Report of Indian Famine Commission, 1880.
2 Report of Indian Famine Commission, 1900.
3 R. C. Dutt : Famine and Land Assessment in India.
4. See *poste* pp. 155 ff.

CHAPTER IX

LAND REVENUE AND ALLIED CHARGES

The social contract. Canons of taxation,—certainty; convenience.

King's share—*bhāga*. Of produce or of profit? Cadastral survey. Assessment in cash or in grains?

Additional revenues—surtaxes, *bali*, *kara*, corvée, benevolences. Royal domains. Cattle-tax, Royalties. Miscellaneous imposts. Revenue-free lands. Transfer of revenue. Jāigir-system? Remission and reduction of revenue.

Weakness of the revenue system. Emergency laws. Exemption to Brāhmaṇas.

Working of the revenue system. Moderate and oppressive taxation.

Role of the state in rural economy. The budget. Heads of expenditure—public works, poor law, famine relief, law and order, sacrifices, bounties. Divergence between theory and practice in the revenue system.

The social contract :

The origin of land revenue is as old as the origin of state. Even in the early Vedic period, the Indo-Aryan polity was sufficiently organised to collect taxes called *bali* which apparently consisted of contributions from agricultural produce and from the stock of cattle paid by the villagers at certain variable rates.[1] In post-Vedic works we have for the first time classified lists of the sources of king's revenue together with the customary rates of each. They, moreover, approach the modern European thought in consciously formulating general rules and maxims of taxation as well as the principles of application of special taxes. The fundamental concept of taxation seen in early Dharmasūtras is that the king is entitled

1 Ghoshal: Hindu Revenue System, pp. 9f.

to a tax for the service of protection.[1] This theory is based upon a corresponding conception of contract between the ruler and his subjects. The theory of social contract as given in Manu and the Śāntiparva (67.23ff.) allows the king 1/50 of animals and metals and 1/10 of grain with the fairest maiden, military service and 1/4 of merit. Although the Arthaśāstra considerably raises the amount as is its wont—*viz.*, to 1/6 of grains and 1/10 of merchandise, certain features are common in this story of the traditional origin of kingship. Firstly, the people submit to a voluntary or self-imposed tax, the rate being fixed by themselves. Secondly, the taxes are given to the chosen king as wages for ensuring protection and prosperity. Thirdly, the king is answerable to subjects for violating the principles of just punishments and taxes.

Canons of taxation,—certainty :

The law-books do not show any further evolution of public control of the raising and appropriation of money. But they provide moral sanctions. The writers on law and polity countenanced no uncertainty in the assessment of king's dues and left no room for arbitrary collection at least in normal times. Even what seems to be most high-handed and oppressive from modern standpoint was sought to be justified by reference to authorities who defined every tax with laborious precision. Every tax-payer knows what he has to pay and no ruler can impose anything beyond only lawful taxes. Over-collection by officers is not connived at. "Whoever doubles the revenue eats into the vitality of the country" and punishment is enjoined for the traducer (Arth. II. 9 ; Śuk. i. 617f.). Kinds and assessments of taxes and appropriation of money were considered to be fixed for ever by the Divine

1 Gaut. X. 27; I. 10. 18. 1; Vāś. I. 42; Viṣ III. 28.

Law violation of which was anathema and meant grave public discontent.

Convenience:

Thus the early Indian taxation system was not stranger to the canon of certainty. It was equally alive to the other modern canon of taxation, *viz*, convenience. Rules formulated in Manu (VII. 128, 139, 170f.), the Śāntiparva (87. 17f.) and the Arthaśāstra (II. 1) rest on the recognition that state revenues ultimately depend on the production of wealth by individuals so that whatever injures the latter is bound to react on the former, that while taxation subserves the essential needs of the state it involves a diminution of the peoples' wealth so that the statesman's task is to reconcile the needs of the state with the interests of the subjects. This point is cleared up by the same authorities by means of a host of analogies from nature (Arth. V. 2; Manu, VII. 128f; Śp. 71. 16ff; 87. 20ff.; 88. 4ff.). The king should resemble the leech which sucks blood gently without causing pain to the victim; the florist who plucks flowers but leaves more of them in the garden for future supply and not the charcoal-merchant who burns all trees outright; the bee which does not sip all the honey of the flower at a time; the cowherd who does not pierce the udder of the cow with the hope of a capital milk-supply; the mouse which nibbles the heels of a sleeping man with its sharp teeth so gradually that the wound is imperceptible. The essence of these metaphors is that taxation should not sap the productive source but leave a decent producer's surplus, that taxes should be levied or increased by easy instalments and not in lumps or by jumps, and that these should be raised at a time and place convenient for the subjects,—all these as much on economic as on political grounds.

The main item of land revenue is the customary share of agricultural income indifferently termed *bhāga* or *bali* levied on ordinary revenue-paying lands. Manu fixes it between 1/6, 1/8, and 1/12 according to the quality of the soil (VII. 130).[1] Gautama raises the lower limit to 1/10 (X. 24). Śukra's schedule gives 1/6, 1/4, 1/3 and 1/2 according to the nature of soil, rainfall and irrigation facilities (IV. ii. 227-30). It is noticeable that there is a gradual rise from the moderate traditional rate of 1/10. The Arthaśāstra in its characteristic fashion substitutes 1/6 for the customary 1/10 in the story of the beginning of kingship (I. 13). This rate got a wide currency and a firm hold on legal mind, so much so that the king was addressed with the familiar sobriquet '*ṣaḍbhāgin*' (Arth. II. 15 ; Baudh. I. 10. 18. 1. ; Vāś. I. 42. ; Viṣ. III. 22. Parāśara. II. 14 ; Nār. XVIII. 48 ; Śp. 69. 25 ; 71. 10). But elsewhere the Arthaśāstra sigificantly recommends upland (sthala) and lowland (kedāra) to be entered separately in the field-register of the *gopa* and enjoins upon the revenue officer a threefold gradation of villages after the manner of Gautama and Manu (II. 35 ; *cf.* Śuk. IV. ii. 220f). This, together with a similar reference in Book V, chapter 2, indicates that differential rates for different classes of soil are intended. The Agnipurāṇa also mentions rates between 1/6 and 1/8 for different kinds of paddy crops (223. 26f.). Thus the assessment varied according to the quality of land and the nature of the crop ; the *ṣaḍbhāga* was only a traditional or average rate, not the fixed or universal rate, in this respect resembling somewhat the 'tithe' in English fiscal terminology.

1 The scale cannot have been meant for the varying needs of the state for which a different schedule is given elsewhere (X. 118). The scholiast's note on Gautama X. 24 removes all doubt on the point.

Share of produce or of profit:

This fairly high rate of 1/6 or 16·6 p.c. has been adversely compared to the later Indo-British rate which is estimated between 7 to 10 p.c.[1] ; and the view that assessment of holding falls much lighter in British than in ancient India has been upheld not only by Anglophils and British civilians but also by scholars in oriental studies.[2] But was taxation really fixed at as high an average as 16·6 p. c. in ancient India? It has been scarcely supposed that while in British India the rate of 7·10 p.c. was assessed on gross produce, the old average rate of 16·6 p.c. was most probably levied on profit. Kullūka explains Manu VII, 130 in the sense that the share is to be estimated on the increase upon the capital employed (mūlyādhikyoḥ mūlyādadhikayoḥ). Medhātithi and Govindarāja are concurrent and Nandana is even more explicit. "In every case the share is on profit made after deducting expenses (sarvatra vyayavyatirikta-lābhaviṣayā bhāgakalpanā)."[3] In the Śāntiparva it is enjoined that taxes should be fixed not on gross income but after examination of income and expenditure (120.9).

An analysis of Śukra's maxims corroborates the presumption. As the first postulate of good agriculture it is stated that "that agriculture is successful which yields a profit twice the expenditure (including government demand—rājabhāgādivyayatā) after duly considering the variations in actual produce from good, middling or bad lands. Anything less than that inflicts suffering on the geople" (IV, ii 2).

Thus 1/3 of the produce must cover incidental expenses

1 Imperial Gazetteer, IV. p. 217.

2 Washburn Hopkins: *op. cit.*: M. H. Gopal: *op. cit.*

3 Haradatta, however, understands Gautama X. 24 as implying the share of gross produce.

and land tax and hence the land tax must be much less than 1/2, 1/3 or 1/4 of gross yield.

As a rider to this may be read the injunction that "the king should demand no taxes from those people who undertake to dig canals, tanks, wells, etc., or bring under cultivation new lands until they realise a profit twice the expenditure" IV. ii. 242-44 ; *cf.* Arth. III. 9).

Thus the tax must be fixed on profit and this profit must be at least twice the expenditure in case of lands under new enterprise.

Baden Powell observes a "primeval simplicity" in ancient land revenue assessment. "Being a share of the gross produce there was no question of any complicated calculation of the cultivator's profit or the cost of production, nor about the relative value of land or the productiveness of the season. Whatever the land produced, little or much, was heaped on the threshing floor and the king's officer superintended its division in kind."[1]

But this primitive simplicity is not traced in the systems of Manu, the Arthaśāstra and the Śukranīti. They all presuppose a careful gradation of land, survey and measurement, calculation of outturn as well as expenses per unit of land and so forth. On the other hand they never testify to a system of sharing crop at the threshing floor known as *batai.*

Cadastral survey:

The periodical survey and measurement of land of which we have concrete evidences in the Pali works[2] and Megas-

1 Land Revenue in Bengal, p 35.

2 King's officers come to a village to take a survey of fields,—khettappamāṇa gahaṇātthāya, Jāt. IV. 169. Sāmantasaṃvohāre or surveyors (An. III 76), –rajjudaṇḍehi bhūmippamāṇe gāhake saṃvohāre (Com.), *i e.*, those who hold the office of measuring the ground with rope and rod.

thenes (Str. XV. 1. 50) are a direct challenge to the notion of primitive simplicity of sharing gross produce. The most obvious explanation of this cadastral survey (besides the necessity of keeping a record and settling boundary disputes) is this. Cultivators might extend their plots by acquisition of new land. In that case the cost of production per unit of land would be less and profit per unit greater. Accordingly, the state would have a higher share. And so *vice versa.* The state would, after the survey, calculate possible expenses in each plot and after the harvest, collect the share duly deducting for the estimated expenditure incurred by the cultivator. The stories of the Kurudhamma Jātaka (II. 376ff.) fully satisfy this explanation. The pious hesitation of the surveyor that the king or the farmer will be loser if the stick of the measuring rope is pitched on this or that side of a crab-hole situated just at the boundary of a field reflects that the king's share was guided by the measurement. In other words measurement was followed by a revision of assessment obviously on a calculation of the expenses—since the tax was on the crop and not on the land. The *seṭṭhi* who repents plucking a handful of corn from his field when he had still to pay the king's *bhāga*, apparently indicates that the land revenue was realised by the method of appraisement of the standing crops which is now known as *kānkut*. The measurement of the king's share of the crops at the door of the royal granary under the supervision of the *doṇamāpaka* does not conflict with the theory above, since the sharing may have been done after leaving aside the measured amount to meet the expenses of the tax-payer.

The simple method of division of produce would preclude all complications about cost of production or relative value of land: whereas we find in the Arthaśāstra and the Smṛtis not only stringent rules about leaving a good producer's

surplus but also a classification of soil on the basis of fertility and differential assessment on the same. The fact of the matter is that the king's share did not necessarily mean a fixed share. It was determined by considerations of fertility of the soil and by the needs of the state or of the cultivator. When the state was in difficulty it would go up, when the cultivator was in want, it would come down, the rebate being reduced to complete remission in extreme cases. The system of measurement and survey and differentiation of soil according to productivity also indicates that land revenue assessment was not permanent but revised at intervals although a constant revision was not necessary as later when the land revenue being assessed and paid in fixed cash the increase or decrease in the yield of a plot is not immediately reflected by a corresponding increase or decrease of the state's revenue.

Payment in cash or in grain :

The complex revenue system of the Smṛtis and of the Arthaśāstra has even led a scholar to advance the drastic theory that the state took the land revenue in money and not in crops.[1] The arguments given are: (1) the revenue of an ordinary village is stated to be 1,000 silver *karṣa*s in the Śukranīti, (2) measurement and grading of land is not required in division of produce, (3) the system of taking share on net profits is opposed to the division of produce. (4) remission of taxes is also an institution of money economy and not of the division of produce.

As for the first point, it is seen in earlier books that the Śukranīti that an advanced conception of government

1 Balkrishna: Hindu Taxation System, Indian Journal of Economics, Vol. VIII.

required the keeping of an elaborate record of the state's estimated income under various heads. This necessitated computation of the consolidated income in terms of cash in each revenue area. In the Jātaka tales villages are often described as *satasahassuṭṭhānaka, i.e.,* yielding a revenue of 100,000 a year. But this very literature definitely shows that the king took his share in grains. The second and third contentions are already answered in previous paragraphs. As regards the fourth, there is no reason why remission of taxes should be inconsistent with division of produce. Only in the case of total failure of crops there will be nothing to divide. But under such circumstances remission is automatic and does not wait for legal injunction. Remission in famine meant remission during scarcity or bad harvest (Arth. II. 1 ; Mbh. XIII. 61. 25) presumably when the producer had a bare surplus over expenditure.

On the other hand there are direct instances in the Jātakas and the Epics of payment in grains. In the Śāntiparva the king is directed to enrich his treasury with swollen corn (koṣṭhāgārañca te nityaṃ sphītair*dh*ānyaiḥ susaṃvṛtam, 119. 17). As will be presently seen, even in the Smṛtis there are categorical references to revenue levied in grains from agricultural land.

Additional taxes,—bali :

The *bhāga* is the main item of land revenue, the regular, customary and legitimate share of the king on agricultural produce in ordinary revenue-paying land. But the king frequently claimed additional imposts indicated in most of the literature by the generic term *bali.* The word means something offered by way of sacrifice to the gods. It is a tribute paid to the Almighty by supplicants seeking protection or favour. The king being a god in human form is the natural recipient of a similar offering. Thus, originally *bali* was a

casual voluntary payment made to propitiate the king. Later it acquired a technical meaning.

Shamasastri, Vincent Smith[1] and F. W. Thomas[2] understand *bali* to be a religious cess. In the Arthaśāstra it appears as a particular tax in a long list under the head of '*rāṣṭra*' or countrypart (II. 6, 15) and is explained by Bhaṭṭaswāmī as a local tax of 1/10 or 1/20 above the regular 1/6. Five of the commentators on Manu VIII. 307 explain it as the regular 1/6 of grain share and only Nandana—the sixth, regards it as indicating all taxes—normal and additional. In this wider sense '*bali*' appears in the Vedas[3] and occasionally in the Jātakas (II. 17 ; III. 9 ; IV. 109, 169). Elsewhere in the Jātakas *bali* is a term for only additional and oppressive imposts (I. 199, 339 ; V. 98).[4] In the Milinda *bali* is referred to as an emergency tax from which the four chief ministers (mahāmattā) are free (p. 146). In the Rummindei Pillar Inscription of Aśoka it is used exclusively in this narrow sense. The text goes,—'Lummini gāme ubalike kate aṭhabhāgiye ca'—'made the village Lummini free of *bali* and paying an eighth share.' The *bali* or additional tax was remitted and the regular *bhāga*, 1/6 or 1/4 whatever it was, reduced to 1/8.

Thus under the term '*bali*' were grouped certain irregular demands of the king on agricultural land. In fact, the evolution of the Indian taxation system is a reflex of the growth of king's powers and functions and of his consequent demands on the people's purse. In the story of the traditional origin of kingship we hear only of a fixed share in grain and animals.

1 Inscriptions of Aśoka—Rummindei P. In.

2 J. R. A. S., 1909, p. 467.

3 Macdonell and Keith: Vedic Index, II. 62.

4 The phrase 'bali-piḷitā' is instructive. There is no reference to oppression in connection with the *bhāga* or grain-share.

This accords with the old Vedic custom. Next comes a grading of land and differential assessment together with the king's claim to certain irregular imposts. Of both of these there is positive evidence in the Maurya period. The materials gleaned from the Śāstras and the Jātakas may be verified by comparison with these and other objective data.

Megasthenes on land survey :

Megasthenes observes a class of country officers (agronomoi) who "superintend the rivers, measure the land as is done in Egypt and inspect the sluices, by which water is let out from the main channels into their branches" and who "collect the taxes" (Str. XV. i. 50). The purport of the phrase "as is done in Egypt" is thus elucidated by Strabo:

"This exact and minute sub-division is necessitated by the constant disturbance of boundaries caused by the Nile in its inundation in which it adds (to some) and takes away (from others), alters shapes and destroys the other signs by which the property of one can be distinguished from that of another, so that it (the land) has to be remeasured repeatedly."

Thus it is most likely that the Maurya officers mentioned above were concerned with the measurement and supervision of alluvial deposits for revenue puposes as the lands bordering the great Bengal rivers have frequently to be surveyed now-a-days for revenue assessment and for the settlement of boundary disputes. If Bühler's identification of the Rājukas[1]

1 *Cf.* Rājuka and *rajju*—the survey-tax of the Arthaśāstra. Hultzsch makes the following illuminating observation on the expansion of the functions of the original surveyor to those of a civil official of the rank of Aśoka's Rājuka.

"The Rājuka originally 'held the rope' in order to measure the fields of the ryots and to assess the land tax. Thus the word became

of Aśoka with the *rajjuka* or *rajjugāhaka amacca*[1] of the Jātaka stories be correct and if both may be aligned with the *agronomoi* of Megasthenes, it would point not only to an organised system of land survey as hinted in the Arthaśāstra but also a realisation of the great schemes of the Arthaśāstra to keep a record like the Domesday Book of William the Conqueror.

On bhāga and bali :

As for additional cesses besides the fixed share the testimony of the Rummindei Edict is supported by Megasthenes' account. Apropos the cultivators, Diodorus says that besides the land tribute they pay 1/4 of the produce to the king (II. 40). Thus there are two taxes, one the regular *bhāga* and another the irregular *bali* which is fixed at 1/4.[2]

the designation of a revenue settlement officer, just as in British India the chief administrative officer of a district is still called 'collector' because his special duty is the collection of revenue." Corpus Inscriptionum Indicarum, Vol. 1, p. xli.

1 Some time after the Jātaka *gāthā* and commentary were composed, the original surveyor had acquired the position of the 'driver of the chariot of state'. The revenue officer became an executive officer. The *rajjugāhaka amacca* became the holder of the reins of government as well as holder of the rope of survey.

2 M. H. Gopal who takes it as axiomatic that the Arthaśāstra is not only a contemporary work with Megasthenes, but that it details the actual conditions of Maurya administration, makes a hypothetical statement that the extra 1/4 seems to have been the irrigation cess or *udakabhāga* of the Arthaśāstra which varies in that work between 1/3 and 1/5 of produce, 1/4 being presumably the common rate. Thus one presumption is piled upon another. The extra impost of 1/4 may be identified *a fortiori* with the *bali* of the Lummini village, the precise nature of which must remain unknown until further light is available from new materials. *Op. cit.*

By following a different line of argument Ghoshal comes to the conclusion that Megasthenes' 1/4 was the only and regular share of the grain produce obtained as land revenue by the king. He follows a

The next stage of progress in the land revenue system and royal pretension is seen in the Junagaḍh Rock Inscription of the Śaka Rudradāman belonging to the 2nd century A.D. While the main heads of land revenue were *bhāga* and *bali*, it was a unique achievement of the Mahākṣatrapa that he reconstructed the Sudarśana lake out of his own treasury without burdening his subjects with oppressive taxes like *kara*, *viṣṭi* or *praṇaya*. All these sur-taxes find mention in the Arthaśāstra which, in this respect corresponds to Śaka Ujjainī more closely than to Maurya Pāṭaliputra.

Kara :

The *kara* and the *piṇḍakara* appear in the Arthaśāstra among the additional cesses in the list of *rāṣṭra* or country-revenue. The *kara* seems to be an annual tax on property. The *piṇḍakara* is defined by Bhaṭṭaswāmī as a tax levied on a whole village in lump and collected annually in kind. The *kara* and *pratikara* occur also among certain other charges outside the formal scheme of classification, charges which the *samāhartā* raises from the village and is required to enter separately in the 'pipe-roll' (II. 35). Manu also recognises *kara* as an additional tax (VIII. 307). Of course, like the *bali*,

revised translation of Diodorus by a German scholar who substitutes the phrase 'in the absence of a special arrangement' for McCrindle's 'besides the land tribute.' Now what may possibly be implied by paying 1/4 of produce in the absence of special arrangement? Here again the Arthaśāstra is called to assistance. The king's share may rise if he lends cattle and implements. But is there any provision in the Arthaśāstra of the king lending cattle and implements to *free-holders* as distinguished from royal tenants? The affirmation of the scholar, that the emergent rate of the Smṛtis and of the Arthaśāstra was the normal rate of land revenue under the Mauryas, is an edifice built on shifting ground and no supplementary evidence is available to buttress it. *Op. cit.*, pp. 168-70.

the *kara* also became a generic term and was often applied to denote all taxes outside the *bhāga*.

Viṣṭi :

The *viṣṭi* is impressed labour. Labour tax was of two kinds (Arrian, XII). There was the labour paid in lieu of grain or cash by poor people (siṃhanika) which the Arthaśāstra thinks may be used by the state in its factories (II. 15). Manu allows this concession to Śūdras, craftsmen and artisans (X. 120), and Arrian testifies that the two latter classes paid their taxes by labour (XII). While this tax in the form of labour was a concession to payers, the *viṣṭi* was a form of coercion, the additional and coerced labour from freemen which amounted to gratuitous performance of public or royal services (Gaut. X. 31 ; Viṣ. III. 32 ; Manu, VII. 138 ; Arth. I. 4, VIII. 1, X. 1 ; Mbh. XIV. 95. 39). In the Arthaśāstra it appears in the list of special charges along with *kara* and *pratikara* (II. 35) paid by villagers and is expected to be entered by the *gopa* in his register of houses, probably to be assessed on a principle of rating according to houses.

For what specific purposes was the corvée employed and how did it fall on the subjects ? The Arthaśāstra wants labour to be impressed in state workshops in a staff of sweepers, weighers, measurers, slaves, etc, (X. 4). There is also provision for employing it in tillage of royal domains (II. 24) In the Mahābhārata if is wanted to be exacted from artisans only with payment of food as unto kine and asses (XIV. 95. 39). The Jātaka stories give graphic pictures of how it actually worked.[1] The people of Kāsi had to serve their king's fiat who was passionately fond of hunting and forced his

1 It is wonderful that Rhys Davids finds no trace of forced labour in Buddhist literature. Buddhist India, p. 49.

subjects to beat the deer forest to the neglect of the cultivation of their farms (I. 149f.). In the introductory portion of another story the gloomy prophecy is made when needy kings "shall set the whole country-folk to work for them ;—for king's sake shall the oppressed folk, leaving their own work, sow early and late crops, keep watch, reap, thresh and garner, plant sugar-canes, make and drive sugar mills, boil molasses, lay out gardens and orchards. And as they gather in all the diverse kinds of produce to fill the royal garner, they shall not give so much as a glance to their empty barns at home."

Te evaṃ duggatā sabbe janapade attano vapakamme karessanti upaddutamanussā sake kammante chaḍḍetvā rājūnaṃ ñeva atthāya pubbaṇṇa paraṇṇāni ca vapānta rakkhantā layantā maddantā pavesantā ucchukhettani karontā yantāni vāhentā phāṇitādīni pacantā pupphārāme phalārāme ca karontā tattha tattha nipphannāni pubbaṇṇādini āharitvā rañño koṭṭhāgāram eva pūressanti attano gehesu tucchakoṭṭhakesu olokentāpi na bhavissanti. I. 339.

Thus would the cultivators be impressed to work the farms of impoverished rulers leaving their own lands to decay. Of course this prognostication would materialise in days of moral disorder that would sweep the earth and not in normal times. But that the *viṣṭi* was a potential source of oppression bears no doubt. The Arthaśāstra warns against its tyrannical exaction from agriculture (II. 1). Like the *bali* this objectionable form of exaction gave a tool to misgovernment and became a legacy handed down to a later age (begār) on worse hands than the king's.

Praṇaya :

The *praṇaya*[1] or benevolences are most probably emer-

1 Kielhorn explains it as a contribution nominally voluntary (given from affection) but which people feel constrained to make . Ep. In., VIII. 6.

gency revenues resorted to for the replenishment of depleted treasury by the enhancement of standard rates. The Arthaśāstra falls back on this remedy in a financial crisis and wants it to be levied from cultivators (karṣaka), dealers and craftsmen (vyavahārin) and animal breeders (yonipoṣaka), the only exemptees being owners of *brahmadeya* land (V. 2). The benevolence on cultivators is assessed at 1/4 of grains but rises according to the quality of the soil up to 1/3 while in Manu the highest rate of emergency tax on agriculture remains 1/4 (X, 118). The *praṇaya* was beyond doubt another handle given to oppression and avidity.

Royal domains :

Further details on the revenue system, at least as it prevailed in the time of the Mauryas, is obtained by fragmentary accounts of Megasthenes which bear comparison with evidence from other literature. The principal source of income after the regular *bhāga* was the output or revenue from royal demesnes. That the king had large estates of his own is clear from all accounts. In the Arthaśāstra's conception of polity the administration of royal farms is entrusted to a special superintendent (II. 24). These farms may be cultivated either through the direct agency of state officers or under their superintendence by tenants. In the first case the superintendent is to work the estates by means of slaves, free labourers and convicts. But apparently the crown lands were large in proportion to labour supply. Even forced labour did not fill the gap. Hence fields may also be leased out to cultivators on attractive terms. If they have their own animals and implements they get half their harvest and if they work with royal capital and implements their share is 1/4 or 1/5 of

produce.[1] The collective output of royal farms is called *sītā* and tops the list of land revenue and cognate charges treated under the head of *rāṣṭra*.

We have already noticed the Jātaka testimony to royal domains worked by free labour. Grants of land from king's estates appear in the title deeds of the Śātavāhanas recorded in the Karle and Nasik caves. The observation of Strabo on the strength of Megasthenes that the cultivators work the land for hire getting a fourth part of the produce (XV. i. 39) had long been a puzzle to historians and was dismissed as anachronistic with the version of Diodorus on the rate of assessment (II. 40). It has been, however, recognised of late that while Diodorus speaks of cultivators in ordinary revenue-paying lands, Strabo deals with cultivating tenants in royal demesnes who did not give but *obtained* 1/4 of produce for hire.[2]

Closely related or analogous to the agricultural produce or share thereto from crown lands was the state's income from (1) reserve forests, (2) mines and salt-centres,[3] (3) state establishments of livestock, (4) sale or loan of grain.

Cattle tax :

The *paśu* or tax levied on cattle was a regular tax which fell upon the pastoral wealth as the *bhāga* fell upon agricultural wealth. Megasthenes notes that the nomadic

1 Note that while tenant-cultivators in crown land obtain 1/4 or 1/5 of produce, their compeers in ordinary private land are entitled to only 1/10 (Arth. III. 13 ; Yāj. III. 194 ; Nār. VI. 2. 3). In Viṣṇu the share is 1/2 (LVII. 16).

2 Ghoshal: *op. cit.* p. 168ff. Gopal: *op. cit.*, p. 55.

3 Mines, pearls and salt were royal monopoly. Pliny, XXXI. 7; Karle and Nasik Cave Inscriptions ; Mbh. XII. 69. 29 ; Arthaśāstra, II. 12.

herdsmen paid their taxes in cattle to the Mauryas (Arr. XI). The Jātaka stories notice its oppressive exaction (II. 240). In the Arthaśāstra the contributions required to be entered separately in the 'pipe-roll' are paid in *dhānya, paśu, hiraṇya, kupya, viṣṭi* and so forth. The Smṛtis are familiar with the contribution in cattle and assess it at the low rate of 1/50.[1] This is probably a levy of amount or value upon the agricultural livestock of cultivators. The commentator of a Jaina text understands charges on domestic animals to mean taxes on sales thereof payable in kind or in cash ; traces of both these customs are seen to have survived down to the Muslim and British periods.[2]

Presents :

Presents or royalties form another head of income derived from villages as well as towns.[3] The *utsanga* in the Arthaśāstra is, according to Bhaṭṭaswāmī, what is paid by inhabitants of the city and country part on the occasion of some festive event such as the birth of a prince. The Jātakas have a story that the people of Kāsi brought a *kahāpaṇa* apiece for a newborn prince's milk-money (khīramūlam) which the pious king did not want to keep but the people pressed and left back (IV. 323). The Jātakas offer many instances of presents which are brought to the king (paṇṇākāra, VI. 42, 342) on the occasion of his coronation

1 The Agnipurāṇa gives a schedule of contributions from villages very similar to the Smṛtis ; but in the cases of *paśu and hiraṇya* it makes a big jump from 1/50 to 1/5 or 1/6. The Arthaśāstra schedule is: Fowl and pig—1/2, Inferior animals—1/6 ; cow, buffalo, mule, ass and camel—1/10.

2 For references see Ghoshal: *op. cit.*, p. 60.

3 The custom of the king getting presents from his subjects comes down from Vedic times. See Zimmer: Altindisches Leben, p. 166.

(chattamaṃgaladivase, III. 407f.) or even when approaching him with a petition (II. 166). Strabo writes that during the hair-washing ceremony of the king the people vied with one another in making him rich presents (XV. i. 69). The Mahābhārata, besides furnishing similar instances, speaks of voluntary contributions (dakṣinā) made by the people to the king for performing sacrifices for public welfare (XIII. 61. 24). All these offerings, literally voluntary, were really the tribute paid by fear to power and might or tips for the acquirement of specific favours and could hardly differ from the *bhet* or *nazarānā* of British days exacted from poor tenants by zamindar's with indirect pressure.

Miscellaneous imposts in the Arthaśāstra :

The Arthaśāstra and the Smṛti works present a lot of similar imposts on land or from village parts which, with the present state of our resources, cannot be verified by positive data and can at best be taken as indicative of the progress of early Indian financial speculation. The list of *rāṣṭra* or revenue from country part supplemented by references elsewhere in the Arthaśāstra consists of 14 items. Among these *sītā, bhāga, bali, kara, piṇḍakara* and *utsanga* are already dealt with in comparison with other evidences. The *senābhakta* is explained by Bhaṭṭaswāmī as "the king's dues of oil, rice and the like payable at the time of the marching of the army as prevalent in specified countries." The *aupāyanika* is an unspecified contribution or present. The *pārśva* is a super-tax collected on excess profit, a marginal revenue like the land-cess in British India. The *kauṣṭheyaka* is tax on land below tanks, lakes and other sources of water built by the state. The *parihinaka* is compensation for damage done by cattle possibly in crown lands.

The other three fiscal terms have long presented much difficulty to scholars, *viz.*, the *rajju*, *corarajju*, and *vivīta*. The *rajju* literally means 'rope' or measuring tape of the land survey. In the technical fiscal sense it apparently refers to a unit of measure applied for purpose of cadastral survey ; and to cover the cost of operations a revenue was realised from the parties concerned like the cost of settlement in our times. The *corarajju* is rope for binding thieves and *vivīta* is pastures. From an examination of the functions of the *vivītādhyakṣa* and the *corarajjuka*,[1] the jurisdiction of both extending outside village limits, it would appear that these comprised fees levied from villagers for the tracking of criminals, the escorting of caravans and the protection of cattle. So while *rajju* is the survey or settlement tax, the *corarajju* and *vivīta* are police taxes.

The Arthaśāstra advocates a measure which amounts to the claim of the state to the unearned increment on land. During the sale of land and buildings by public auction the increase over the regular price together with the usual tithe belonged to the state (spardhayā mūlyavarddhane mūlyavṛddhiḥ saśulkā koṣaṃ gacchet, III. 9). The same rule applies to other goods (II. 21).

The method of land revenue assessment and collection in the Arthaśāstra throws further light on certain additional incomes to the treasury, which may not be scrupulously legitimate and above reproach. The superintendent of the treasury is to increase king's receipts by underhand means (upasthāna) in the process of collection. The tax-gatherers are to practise certain profitable sleights of hand. Then,

1 Officers called *cauroddhāraṇika* and revenue called *cauroddhāraṇa* are seen in later inscriptions. Ep. In., XII. 8, 18 ; XVII. 18. The *vivītādhyakṣa* is to examine passports and guard the pasture grounds which are opened between too dangerous places (bhayāntareṣu), II. 34.

there is remarkable difference in the balance and weights used for king's receipts and those in general use (II. 19). Lastly, there is a *vyāji* or compensation fee levied above the measured share on certain liquids like oil, etc.

In Smṛtis :

The Smṛti works (Gaut., X. 25, 27; Manu, VII. 130, X. 120; Viṣ., III. 24f.) and the Agnipurāṇa detail certain miscellaneous contributions raised from villages. These constitute roughly the following schedule: (1) *Paśu* and *hiraṇya*=1/50 (1/5 or 1/6 according to Ap.), (2) Roots, fruits, flowers, medical herbs, honey, meat, grass, firewood, scents, flavouring substances, leaves, skins, wickerwork, stonework, clarified butter etc.=1/6.[1]

The term *hiraṇya* has not yet been solved to satisfaction. In the Arthaśāstra it occurs in the list of different forms of payment (dhānya, paśu, hiraṇya, kupya, āyudhīya, viṣṭi and so forth) which the *samāhartā* is required to enter separately in the 'pipe roll' (II. 35). The suggestions that it was a tax on the hoard of gold, or on income, levied in gold currency are rejected by Ghoshal on the following grounds. (1) From its occurrence in the above-mentioned sources along with cattle and roots, fruits, flowers, etc., it appears to belong to the group of taxes on agricultural and industrial products. (2) In the land-grants it is conjoined with *bhāgabhogakara* and with *dhānya* both of which constitute king's customary grain-share. (3) It is improbable for a state as contemplated in the Smṛtis to draw part of its normal revenue from gold. By referring to conditions prevailing in Muslim India before the reforms of Todar Mal, he explains *hiraṇya* as "a tax in

1 Haradatta reads the passage in Gautama and Viṣṇu as indicating 1/60 which is improbable.

cash levied upon certain special kinds of crops as distinguished from the tax in kind which was charged upon the ordinary crops."[1] The reason given,—that such crops are difficult to divide is not very clear and convincing, and fails to account for the inordinate discrimination in the share demanded by the king for the two classes of crops, *viz.* 1/50 for one and 1/6 for the other.[2]

As regards the contribution of 1/6 from roots, fruits, flowers, etc., a host of parallels may be drawn from later and recent conditions.[3] Meat, honey and clarified butter comprehend the pastoral and farming occupations of villagers while earthenware, stoneware and wickerwork comprise the whole range of cottage manufactures. So, no branch of villagers' income, agricultural or industrial, is to escape the rigorous and all-pervasive fiscal system of Manu, Viṣṇu and Gautama.

Devolution, confiscation, fine and bribe :

The heads of income from land and village wealth may be concluded with the enumeration of devolutions, confiscations, fines (daṇḍa) and bribes (lañcaṃ). Treasure trove and intestate or ownerless land reverted to Crown (Jāt. I. 398; III. 299; IV. 485; VI. 348; Sn. I. 89). The assets of the rich people who sometimes took to asceticism with whole families without leaving an heir, formed a lucrative income for the state. Fines and confiscations are dangerous weapons in the hand of poor and unscrupulous kings ; although in the Śāntiparva it is strictly reminded that they are intended "to create terror and not to replenish the treasury" (122. 40), there is no safeguard to control their application. Kings

1 *Op. cit.*, p. 62.

2 Of course, so far as the Agnipurāṇa rate is concerned there is no such discrimination.

3 Ghoshal: *loc. cit.*

could also sell their judgments and favours and receive illegal gratifications (Jāt. II. 170ff.), as much as their councillors and officials.

Revenue-free lands :

A large amount of revenue was lost to the state under the charters by which considerable portions of land were allowed to be held free of revenue or the revenue therefrom was transferred to private persons or associations. Of the assignment of rent-free land from royal domains and of revenues from particular villages, the Karle and Nasik cave inscriptions and the Jātaka stories offer plenty of instances. In the Arthaśastra the *samāhartā* is required to enter such revenue-free lands (pārihārika) into his roll. Elsewhere a distinction is drawn between taxable (karada) and tax-free (akarada) persons as well as villages. These assignments and exemptions might be granted either unconditionally or in return for specific services. To the former category belong mainly the *brahmadeya* lands. In the Arthaśāstra the immunity of such property is enjoined even when benevolences and irregular taxes may be raised from all property, during emergencies (V. 2). Another class of revenue-free land in the Arthaśāstra is the *ātithya* explained by Bhaṭṭaswāmī as "lands granted to the judicial officers for the purpose of alms-giving and such other pious acts" (II. 20)[1]. The forest produce is also declared to be free from any impost (V. 2). Except for the king's reserve forests, the wild tracts were regarded according to all authorities as no man's land. The immunity is evidently extended to forest-dwellers and adjacent villagers whom we find in popular stories gathering firewood and forest produce without interference.

1 *Cf.* the *inām or mu'-afi* under Muslim rule.

Transferred revenue, the Jāigir System :

Among the land held free of revenue (or the revenue of which is assigned) in exchange of specific service to the state belongs principally the land assigned to king's officers in lieu of remuneration.[1] Grants without the right of sale or mortgage to the superintendents, accountants, *gopas*, *sthānikas*, vets, physicians, horse-trainers and messengers form part of the revenue administration in the system of the Arthaśāstra (II. 1). According to Manu (VII. 119) and the Śāntiparva (87. 6-8), the lord of 10 villages is to be remunerated with 1 *kula* of land (land cultivable with 12 oxen), of 20 villages with 5 *kulas*, of 100 villages with 1 village and of 1,000 villages with a township. The point of difference between the two testimonies is that the Arthaśāstra, unlike Manu and the Mahābhārata, contemplates not only rural administrators but other officials, higher and lower, as recipients of such grants and that it explicitly restricts the right of grantees to mere usufructuary possession. In the Arthaśāstra the grants of land to the *adhyakṣas* are made in addition to a cash salary of 1,000 *paṇas*. Although a distant resemblance is marked between this arrangement and the Muslim Jāigir system, it must be noted that the Arthaśāstra discountenances encouragement of colonisation by grant of villages (V. 3) which is the substance of the latter. But the arrangement of the Arthaśāstra foreshadows the Muslim custom through more than one institution. The class of villages which enjoy immunity on condition of military service (āyudhīya) is analogous to that form of Jāigir in which revenue was assigned for the maintenance of troops.[2]

1 Cf. Jāt. I. 354 ; Ep. In., XV. 6f.; XVIII. 22 ; Yuan Chwang, Vol. I. p. 176 ; South Indian Inscriptions.

2 The essential differences of the earlier institution from the Jāigir system are that (1) the right of the grantees was restricted to revenue

The practice of remunerating officers by assignment of revenue was derogatory to the state and the author of the Arthaśāstra was fully aware of that. It deprived the state of the potential revenue that would accrue from improvement or extension of cultivation. Transfer of revenue also carried with it, unavoidably, some administrative power since the recipient was to realise the revenue. This would tend to create a class of local lords running their own administration parallel to the king's.[1] Why then did he resort to this practice ? Obviously, because of the difficulties of revenue collection. It was the same difficulty which compelled the Muslims to resort to the Jāigir system and the East India Company to make the Permanent Settlement with the *zemindars*. In districts and villages the central control was weak and a defaulting tax-payer or village could not be brought to book very easily. By this arrangement with his officers the king was relieved of two burdens, the burden of revenue collection and the burden on his treasury.

Remission or reduction of revenue :

Apart from exemption from taxation granted in perpetuity, certain lands and villages enjoyed remission or reduction of revenues for a season or more. Remission of taxes for relief of cultivators during bad harvest is inculcated in the Arthaśāstra (II. 1) and the Mahābhārata (II. 61. 25). The Arthaśāstra (III. 9) and the Śukranīti (IV, ii. 242-44) also

enjoyment without hereditary rights and rights of ownership, (2) and that the grants did not carry with them transfer of executive power. Although in Manu and the Śāntiparva, the mere usufructuary possession of the grants is not as pointedly mentioned as in the Arthaśāstra the same implication is there, since it is wanted that the remuneration village of the *śatādhyakṣa* must be within the jurisdiction of the *sahasrādhyakṣa* for otherwise as Nīlakaṇṭha annotates, he may tax oppressively.

1 See *ante*, pp. 70 f.

enjoin the same measure for improvement and extension of agriculture. Remission or reduction of taxation was conceded as occasional favour to a village, town or district (Jāt. IV. 169 ; Rummendei P. E. ; Khāravela's Hathigumpha Ins.[1]) just as a village or a specified area might suffer an increment of revenue by way of punishment or from royal fiat (Jāt. III. 9).

Doctrine of Emergency :

The works on law and polity which punctiliously elaborate sound principles of taxation made a dangerous departure when they proceeded to lay down special rules for emergency. In all ages and in all lands the doctrine of necessity has overlept its bounds and become a convenient euphemism of tyranny and avidity. In ancient India emergency revenues were allowed by law-givers to be raised either by the enhancement of standard rates or by the imposition of wholly irregular demands. The levy of *praṇaya* advised in the Arthaśāstra is the increment of standard rate from 1/6 to 1/4 of grains in case of cultivators, rising up to 1/3 according to the quality of the soil. In Manu the highest rate of emergency tax on agriculture remains 1/4. The scale of *praṇaya* from animal-breeders is fixed in the Arthaśāstra at 1/2 of cocks and pigs, 1/6 of small animals and 1/10 of cows, buffaloes, mules, asses and camels. Besides these a host of forceful and fraudulent practices are prescribed with brazenfaced chicanery which it would be sickening to relate. The teachings on *rājadharma* in the Śāntiparva give *carte blanche* to the king. The rule that taxation should be mild is for normal times. In

1 "rājaseyaṃ saṃdaṃsayaṃto sava-kara-vaṇa anugaha-anekāni satasahasān vīsajati pora-jānapadaṃ."

times of distress a Kṣatriya may forcibly take what he can from the rich and commits no sin by oppressing his subjects for filling the treasury (130. 24ff.; IV. ii. 2; Somadeva Nītisāra. XXI. 14). That necessity knows no law was an accepted maxim of Indian financial speculation which gave a free hand to extortionate and fleecing demands of which descriptive accounts are not rare.

Exemption of Brāhmaṇas :

For a state entitled to 1/6 of net produce and a lot of additional taxes, why this nightmare of depleted treasury and nervous search for income? It was because there was a big crack in the massive fabric of the Indian taxation system through which leaked out a major share of the state's legitimate dues. We have seen that private lands were fast concentrating in the hand of Brāhmaṇas—regular and secular.[1] Now the same books which lay down the emergency rules exempt the Brāhmaṇas as a class from taxation on the strength of their astonishing pretensions. Vāśiṣṭha expressly exempts Brāhmaṇas, particularly learned ones (I. 42f.; XIX. 23) from any exaction on the ground that they render spiritual service to the state and the attendant material welfare. The same statement occurs in Manu (VII. 133). Viṣṇu forbids taxes to be raised on Brāhmaṇas because they pay their tax in virtuous acts (III. 26f.). Āpastamba accords the same privilege to learned Brāhmaṇas (II. 10. 26. 10) and Vṛhaspati follows in the same strain (XVII. 3). According to the Śantiparva, the Brāhmaṇas are to enjoy immunity even when the doctrine of necessity may encroach upon the fundamental rights of property. Megasthenes himself notes that in Maurya India

1 See *ante*, p. 63

the Brāhmaṇas and philosophers paid no taxes (Str. XV. i. 32). Aśoka was not the only monarch to distribute unstinted largesses on these two classes (REs. V, VIII, IX). The Jātakas and the Śātavāhana Inscriptions offer further concrete instances how kings in recurring fits of pious generosity made over the revenues of entire villages to Brāhmaṇas, religious and worldly. Even the Arthaśāstra which treats politics as an independent branch of knowledge apart from the canon, cannot free itself from this halter of uneconomic piety. Besides the reference to *brahmadeya* lands and to their exemption from *praṇaya*, etc., it accords the priests of royal entourage the highest grades of salary along with the Crown Prince, the Queen Mother and the Queen Consort (V. 3). Not only is the Brāhmaṇa to be exempt from taxation but a king has no claim to the former's property even on the failure of his heirs (Gaut. XXVIII. 41f.; Baudh. 1. 5. 11. 15f.; Vāś. XVII. 84-87; Viṣ. XVII. 13f.; Manu IX. 188ff.; Arth. III. 5). The same authorities lay down the general rule that the Brāhmaṇa who finds a treasure trove keeps the whole of it while other persons who come to the same luck must make it over to the king: and why? Because the Brāhmaṇa is the lord of everything! (Manu VIII. 37; Yāj. II. 31). The effect of these rules on royal exchequer and consequently on the fiscal system may well be imagined when it is observed how sedulously gift of land to Brāhmaṇas was encouraged (Āpast. II. 10. 26. 1; Viṣ. III. 81-84; Arth. II. 1f.; Agni-p. 223. 14; Mbh. XII. 343. 18, XIII. 62) and how kings vied with one another in this pious feat and vainglorioously recorded their bounties (Aśoka Edicts, Karle and Nasik Cave In., Khāravela's Hathigumpha In.).

The argument may be put forth that the foregoing privileges accrued not to all Brāhmaṇas but only to *śrotriyas* or those who performed the sacrifice and studied the Vedas

thereby proving useful to society. The Śāntiparva carefully demarcates pious Brāhmaṇas who are to be exempted from secular Brāhmaṇas who are to be fleeced with taxes and forced labour (76. 5-11 ; 77. 2f.). But is there any universally recognised hallmark of piety ? The Pali literature, especially the Jātakas, show that the recipients of *brahmadeya* gifts of land were not always devoted spiritualists (*cf.* Sut. II. 7). Even if it be accepted that wealth and privileges poured upon *bona fide* religious persons and orders, history has abundant proof that such a constant outflow corrupts even the purest recipient and works his ruin. At any rate, the state became the poorer and had to lay its fingers in the pockets of the toiler.

Working of the system :

It remains to be observed how this elaborate revenue system actually worked and how the people fared under it. As the system was not built upon rigid and inflexible regulations, it had a fair measure of elasticity which might be construed for both good and bad purposes. Hence under certain rulers it rose to the lofty Smṛti ideal that the king gets the revenue only for the service of protection and spends every penny beyond his own wages for public good; while in the other extreme bankrupt profligates like Louis XV fleeced their subjects sometimes breaking the economic backbone of the state.

Did the Maurya taxation system fall very lightly on the people? There is one reading of Diodorus' familiar passage which would fix the king's grain share at the high rate of 1/4. Leaving aside this controversial piece of evidence and the still more unsound logic that the Arthaśāstra—supposed to be the work of Candragupta's iron chancellor, is at its wit's end in search of revenues, it appears that extensive public and

building works, wars and missionary propaganda had to be met from the people's pocket barring a large class of Brāhmaṇas. And in the tyranny of imperial officers which drove province after province into revolt under the later Mauryas, undue exactions must have had a conspicuous share.[1]

Śātavāhana and Śaka :

The Śātavāhana king Gautamiputra Śātakarṇī claims to have "never levied nor employed taxes but in conformity to justice" (N.C.I, 2.i). The Śaka Rudradāman is similarly proud of the distinction that he did not oppress his subjects with *kara, viṣṭi* or *praṇaya* and remained content with *bhāga, bali and śulka.* In the background of these vaunts one may guess oppressive and unlawful demands by less considerate rulers. And such pictures are presented in the Jātaka stories.

Oppressive taxation :

The tax-collectors (niggāhaka) were an overzealous lot and became a byword for importunate demand (IV. 362). In the Śāntiparva it is admitted that they sometimes collect tax unfairly or actuated by lust and avarice from persons piteously praying for mercy—thereby destroying the king (yadā yuktyā nayed arthān kāmād arthavaśena vā: kṛpaṇaṃ yācamānānāṃ tadrājño vaiśusaṃ mahat, 91. 25). The Arthaśāstra (II. 9) and the Śukranīti (i. 617f.) lay severe strictures on over-collection. But these people took their cue from their masters whom the same authors give an ample latitude. In the Bhuridatta Jātaka it is stated in a verse that ordered by

1 See Raychaudhuri: *op. cit.*, pp. 363 ff.

the king, tax-gatherers plunder the wealth of cultivators like robbers without fear:

akāsiyā rājūhi vanusiṭṭhā
tad assa ādāya dhanaṃ haranti
te tādisā corasamā asantā.....VI. 212.

They (balisādhakā) eat the cooked food of the tax-payer, or kill a calf for skin, all at their sweet will (V. 106). A king is said to have drained his country of its gold by his exactions (IV. 224; *cf.* III. 319). Another by raising fines, *ābwābs*, cattle-tax (?) and cash levies crushes his subjects like sugar-canes in a mill (daṇḍa-bali-jaṃgha[1]-kahāpaṇādi gahaṇena ucchuyante ucchuṃ viya janam pīḷesi II. 240). A gloomy picture of relentless extortion is drawn up as part of the great moral disorder that would prelude the nemesis.

"Kings shall be amassing wealth by crushing their subjects like sugar-canes in a mill and by taxing them to the utmost. Unable to pay the taxes the people shall flee from village, town and the like and take refuge in the borders of the realm."

Ucchuyante ucchuganṭhikā viya manusse pīḷenta nānāppakārehi balim uppādetvā dhanaṃ ganhissanti manusse balipīḷitā kiñcidātum asakkontā gāmanigamādayo chaḍḍetvā paccantaṃ gantvā vāsaṃ kappessanti. I. 339.

1 Rouse fails to make out its meaning and after much hesitation renders it as 'mutilations' (of legs). This is out of place in a list of revenues and discords with 'gahaṇena.' On the other hand the use of *jaṃgha* for animal (like the English 'head' for man) is not unknown. In the Arth. II. 35 there is an instruction on spies to ascertain the number of men and beasts (*jaṃghāgra*) in each family as well as their income and expenditure with a view to assessment of taxes. The commentary on 'jamghāgra' runs thus: jaṃghāśabdena pāda cārino lakṣante kulasambandhināṃ pādacāriṇāṃ dvipada catuṣpadānām agram iyattaṃ. 'Jaṃgha' is used in the sense of animal also in Jāt. VI. 34.

The kingdom of Kampilla was deserted by the people for oppressive taxation. Men betook to the forest with their families. Others remained indoors at night but on day-break fled to forests fencing their houses with thorn branches. "By day they were plundered by king's men, by night by robbers."

Balipīḷitā raṭṭhavāsino puttadāre ādāya araññe migāviya cariṃsu gāmatthāne gāmo nāma nāhosi manussā rājapurisabhayena divā gehe vasitum na sakkonti gehāni kaṇṭakasākhāhi parikkhipitvā aruṇe uggacchante yeva araññaṃ pavissanti divā rājapurisā vilumpanti rattiṃ corā. V. 98 f.

In the Śāntiparva there is the warning that the king is to see that the agriculturists of the kingdom do not leave it through oppressive taxation (126.9). The rules of the Arthaśāstra presuppose the same contingency (VII. 5). Thus there were cases when the insatiable greed of kings ruined the whole countryfolk and rendered the prosperous countryside into depopulated deserts.[1]

Truly, the king is '*viśāmattā*'—the devourer of subjects!

Surplus or balanced budget ?

These instances of oppressive taxation lead to another question—whether ancient states used to accumulate large surpluses or they presented a balanced budget. Opinion inclines to the former view.[2] Indeed, the systematic realisation of $\frac{1}{6}$ of produce and the additional imposts would automatically keep large surpluses. But it has been seen that there

1 In South Indian inscriptions there are interesting evidences of organised no-tax campaign by cultivators against such unlawful exactions. Government Epigraphic Report, 1918, p. 163.

2 Ghoshal: *op. cit.;* Gopal. *op .cit.* In the Mahābhārata there is the political maxim that the expenditure should never exceed $\frac{1}{4}$ of the king's income. II. 5. 70-72.

are reasons to suppose that the 1/6 was probably raised not on produce but on profit. Again, why is so much pre-occupation with the depleted treasury and provision for almost unlimited emergent taxes if there were no deficits ? The numerous cases of oppressive exaction show further that these measures had to be taken whenever war, sacrifices or megalomaniac bounties shook the poise of income and expenditure. The Mahābhārata narrates a story that the *ṛṣi* Agastya went to wealthy kings in quest of money but finding income and expenditure evenly adjusted, even that redoubtable anchorite had to return empty-handed from all quarters (III. 98). The possibility of huge surpluses was also counteracted by the big volume of transferred revenue, by the liberal gift of revenue-free lands and by the manifold heads of expenditure over departments to which the state extended its activities.

Sphere of the State ;

Regarding the sphere of action of the state, it has been remarked, "A policy of non-interference was recognised as the ideal policy of the state, the functions of which were ordinarily restricted to ' the irreducible minimum,' *viz*., the protection of life and property and realisation of revenue for the proper execution of that duty."[1] Not only is the policy adumbrated in the Arthaśāstra a clear contradiction of this position: the complicated system of taxation developed by the Indo-Aryans is in itself an antithesis of the *laissez-faire* doctrine and a strong evidence of the multifarious duties of the state. The Indo-Aryan state was not a mere police state guarding person and property although that was the original term

1 R. K. Mukerji: *Local Self-government in Ancient India*, p. 3.

of the social contract. As in the case of the heads of income, the study of heads of expenditure reveals the state in both its opposite aspects,—in solicitous care for the people whose welfare it holds in trust and reckless squanderings on vainglorious exploits and pseudo-religious practices in the name of public good. We are concerned here only with those heads which unfold the position of the state touching rural economy.

Public works and buildings :

Public works of diverse sort formed the main channel of expenditure and engaged the chief attention of a benevolent state. Erection of almshouses (dānasālā) at important centres of the towns is a regular feature of the Jātaka stories and from here food was daily distributed to the indigent throughout the kingdom (I. 262, II. 367, III. 129, 470, IV. 355, 402, VI. 484). Some kings took interest in the construction of rest-houses for travellers (āvasathāgāra) in villages or on trunk roads at intervals[1]. Free dispensaries for men and for beasts were opened by Aśoka all over his Empire (R.E. II ; P.E. VII). Canals, tanks and wells for drinking and irrigation purposes and other irrigation constructions were frequently undertaken. Works of building and repair for artistic, commemorative or propagandist purposes were an acknowledged sphere demanding the state's resources in which Aśoka, the Śungas and the Kuṣāṇas took special interest. Colonisation, road-making, town-planning and reclamation of virgin lands were other features of absorbing interest subsidised or undertaken by the state (Arth. II. 1 ; Jāt. V. 35, 511).

1 See Ep. In., VIII. 8-10. iv, 12-v.

Poor law :

An organised system of poor relief was demanded by the paternal conception of government (Gaut. X. 9ff. ; Arth. II. 1). In the Mahābhārata it is repeatedly extolled as a feature of good government. It seems that in several states the cripple and the imbecile, the stranded widow and orphan were maintained at state expense (V. 30. 40f. ; *cf.* Arth. II. 1, 23) or provided with home, clothes and food (XII. 42. 11, 59. 54, 71. 18, 86. 24). Āpastamba enjoins the same activities upon the king on behalf of outraged women (II. 10. 26. 22f.)

Famine relief :

Collateral with the working of the poor law were the provision for famine relief and subsidisation of agriculture. The Arthaśāstra wants the king to advance cash, corn and cattle to the cultivator (V. 2f.). Usavadāta claims to have distributed stems of cocoanut trees in villages for cultivation, 1,000 in one and 32,000 in another.[1] During famine an enlightened government had an arduous time. Provision booths were thrown open, test works started under the direction of capable officers, loan and gratuitous relief were distributed in doles.[2] Similar relief measures were launched by benevolent governments against fire, serpents, tigers, epidemic diseases, etc.[3]

Restitution of stolen property :

Another item of expenditure pressed home by the lawgivers, would, if given effect to, prove a heavy drain on the

1 Ep. In., VIII. 8-10. iv, 12. v.
2 See *ante.*, pp. 109ff.
3 C. V. Vaidya: Epic India, p. 221.

treasury. From the king's duty of protection against theft restitution of stolen property follows as a matter of course. Compensation to the loser from royal treasury in the case of non-recovery of stolen goods is accordingly inculcated by jurists (Gaut. X, 47 ; Viṣ. III. 66f. ; Manu, VIII. 40 ; Yāj. II. 36; Śp. 75. 10 ; Arth. III. 16, IV. 12). Āpastamba wants to make officers pay for the loss (II. 10. 26. 8 ; Yāj. I. 272). Akbar followed this regulation when he made the *kotwāl* responsible for the loss and liable to compensation (Āini. II. p. 42). No concrete evidence of such practice during our period is however available. Generally speaking, there was no constitutional obligation although deserving cases might receive the king's consideration and move his heart.[1]

Sacrifices and bounties :

There were other and less pleasing features of revenue appropriation. Sacrifices often highly expensive are prescribed for the birth of an heir to the crown, for rainfall, for victory in war, and for all and sundry purposes going in the name of welfare of the state. Resources which might well be invested in nation-building activities were thrown into the Sacred Fire or devoted to the propitiation of a large class of professional priesthood who had little part in the productive forces of the land. The words of Buddha as preserved in the Pāli canon frequently castigate them as a class of parasites who encourage sacrificial rites and animal-killing only with a view to fill their stomach and their pocket. Land, cattle and coins flowed to them in an uninterrupted stream by way

1 A. S. Altekar is too bold to assert on the strength of a parallel injunction in the Arthaśāstra (IV. 13) that these were not mere pious wishes but "actual facts in real polity."—*A History of Village Communities in Western India*, p. 60.

of sacrificial fee. The figures of the Epics even on a modest estimate stagger modern conceptions of public finance. The king of Kampilla who in the Jātaka story is seen to drive his folk to the forest by oppressive taxation, propitiates a tree god by offering annually 1,000 pieces (*cf.* V. 217). Sacrifices and worships were not the only channels for throwing out public money on unproductive purposes. The king often indulged in megalomaniac bounties not only upon monks and Brāhmaṇas but whosoever might take his fancy.

Theory vs. practice :

So it is time to revise the pet patriotic theory that the king was bound hand and foot by the Śāstras within a narrow compass of financial rights and the people had their chests and barns amply safeguarded against royal robbery. Equally shifting are the grounds of the apologists for British administration who try to establish that the king,—'devourer of the folk' had,—besides the high normal rate of 16·6 p. c. of harvest,—unlimited powers of taxation over his 'eminent domain.' As far as theory goes the Indian revenue system stands unbeaten in the history of ancient races for its soundness, impartiality within a large sphere, elasticity of rates, safeguards against misuse of public money and elaborate techniques to meet complex needs and exigencies. But theories may be regarded more in breach than in observance, and the best theories are liable to the worst constructions. The king is the semblance of Indra who sucks water from the earth and returns it in beneficent rains which preserve life and growth. A king might well imitate Indra, the taker and ignore Indra the giver ; and it makes a difference of heaven and hell if public good which is the *sine qua non* of taxation, is ignored. Hence in India, as in every

country we have side by side Augustus and Nero, Hammurabi and Sardanapalus, Henry IV and Louis XV, only with this difference that the Satan quotes the gospel as vigorously as the saint and constructs out of it a plausible brief to put up his monstrous case. And a section of Brāhmaṇhood who struck the Mephistophelian bargain with the state which gave them exemption from revenue in exchange of paying a share of their piety was always at hand to give their blessing to any measure that conciliates priestly pretensions with monarchical despotism.

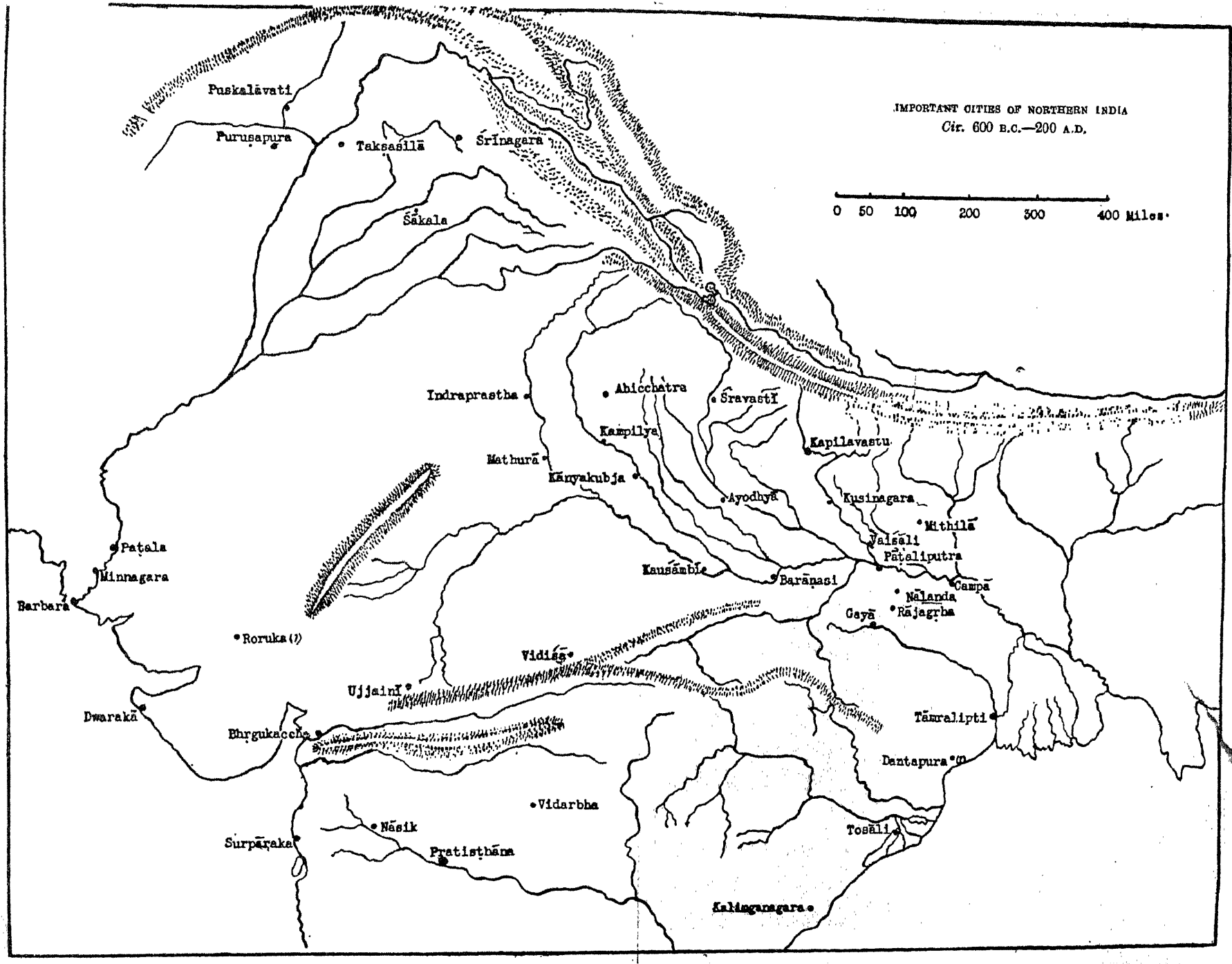
BOOK II

INDUSTRIAL ECONOMY

Atthi Yonakānaṃ nānāpuṭabhedanam sāgalan nāma nagaraṃ nadi-pabbata-sobhitaṃ ramaṇīya-bhūmippadesa-bhāgaṃ ārām-uyyāno'pavana-taḷāka-pokkharaṇī-sampannaṃ nadi-pabbatta-vanā-rāma-neyyakaṃ sutavantanimmitaṃ nihata-paccatthika-paccāmittaṃ anupapīḷitaṃ vividha-vicitra-daḷham-aṭṭāla-koṭṭakaṃ varapavara-gopuratoraṇaṃ gambhīra-parikhā-paṇḍara-pākāra-parikkhittantepuraṃ suvibhatta-vīthi-caccara-catukka-singhāṭakaṃ suppasāritāneka-vidhavara-bhaṇḍa paripūritanta-rāpaṇam vividha-dānaggasata-samuppa-sobhitaṃ Himagirisikhara-saṃkāsa varabhavana satasahassa-patimaṇḍitaṃ gaja-haya-ratha-pattisamākulaṃ abhirūpa-naranāri-gaṇānucaritaṃ ākiṇṇajanamanussaṃ puthu-khattiya-brāhmaṇa-vessa-suddaṃ vividha-samaṇa-brāhmaṇa-sabhājana-sanghaṭitaṃ bahuvidha-vijjāvanta-naravīra nisevitaṃ Kāsika-koṭumbarakādi nānāvidha-vatthāpaṇa sampannaṃ suppasārita rucira-bahuvidha-pupphagandhāpaṇa-gandhagandhitaṃ āsiṃ-saniya-bahuratana-paripūritaṃ disāmukha-suppasāritāpaṇa singāra-vāṇijagaṇānu-caritaṃ kahāpaṇa-rajata-suvaṇṇa-kaṃsa-patthara-paripūram pajjotamāna-nidhi-niketaṃ pahūta-dhanadhañña-vittūpakaraṇaṃ paripuṇṇa-kosakoṭṭhāgāraṃ bahv-annapānaṃ bahuvidha - khajja-bhojja - leyya - peyya-sāyaniyaṃ Uttarakurusankāsaṃ sampanna-sassaṃ Āḷaka-mandā viya devapuraṃ.

Milindapañho, p. 1 f.

There is in the country of the Yonakas a great centre of trade, a city that is called Sāgala, situated in a delightful country well-watered and hilly, abounding in parks and gardens and groves and lakes and tanks, a paradise of rivers and mountains and woods. Wise architects have laid it out, and its people know of no oppression, since all their enemies and adversaries have been put down. Brave is its defence, with many and various strong towers and ramparts, with superb gates and entrance archways ; and with the royal citadel in its midst, white-walled and deeply moated. Well laid out are its streets, squares, cross-roads and market places. Well displayed are the innumerable sorts of costly merchandise with which its shops are filled. It is richly adorned with hundreds of almshalls of various kinds; and splendid with hundreds of thousands of magnificent mansions, which rise aloft like the mountain peaks of the Himalayas. Its streets are filled with elephants, horses, carriages and foot passengers, frequented by groups of handsome men and beautiful women, and crowded by men of all sorts and conditions, Brāhmaṇas, nobles, artificers and servants. They resound with cries of welcome to the teachers of every creed, and the city is the resort of the leading men of each of the different sects. Shops are there for the sale of Banaras muslin, of Koṭumbara stuffs, and of other cloths of various kinds, and sweet odours are exhaled from the bazars, where all sorts of flowers and perfumes are tastefully set out. Jewels are there in plenty, such as men's hearts desire, and guilds of traders in all sorts of finery display their goods in the bazars that face all quarters of the sky. So full is the city of money, and of gold and silver ware, of copper and stone ware, that it is a very mine of dazzling treasures. And there is laid up there much store of property and corn and things of value in warehouses—foods and drinks of every sort, syrups and sweetmeats of every kind. In wealth it rivals Uttarakuru, and in glory it is as Āḷakamandā, the city of the gods.


IMPORTANT CITIES OF NORTHERN INDIA
Cir. 600 B.C.—200 A.D.
0 50 100 200 300 400 Miles
Puskalāvati
Puruṣapura
Takṣaśilā
Śrīnagara
Śākala
Indraprastha
Abicchatra
Śravastī
Kampilya
Kapilavastu
Mathurā
Kānyakubja
Ayodhyā
Kusinagara
Mithilā
Vaiśālī
Pāṭaliputra
Kauśāmbī
Barāṇasi
Campā
Nālanda
Rājagṛha
Gayā
Pāṭala
Minnagara
Barbara
Roruka (?)
Vidiśā
Ujjainī
Dwarakā
Bhṛgukaccha
Tāmralipti
Dantapura
Vidarbha
Nāsik
Surpāraka
Pratiṣṭhāna
Tosāli
Kaliṅganagara

CHAPTER I

THE CITY

City-building among non-Aryans and Aryans. Growth of urban settlements. Science of town-planning, the *vāstuvidyā* and the *śilpaśāstra.* Divisions of the science.

Origin of cities. Growth from one village ; amalgamation of several villages. Advantage of natural resources; trade routes and marts; strategical and sanitary importance; sea coast, places of pilgrimage and seats of learning. Military necessity. Traces of origin in city plan.

The planned city. Principles observed in planning. Solidarity and entity of the city. Difficulties of expansion.

The six great cities. (1) Campā, (2) Rājagaha, (3) Sāvatthi, (4) Sāketa (Ayodhyā), (5) Kosāmbi, (6) Bārāṇasi, (7) Vesāli, (8) Mithilā, (9) Kapilavastu, (10) Ujjeni, (11) Takṣaśilā—history, natural advantages, remains and plan, (12) Puṣkalāvatī, (13) Kampilla, (14) Dantapura, (15) Mathurā, (16) Dwārakā—plan, (17) Indraprastha, (18) Śākala, (19) Pāṭaliputra—history, description, (20) Tosali, (21) Śrīnagarī, (23) Kānyakubja, (22) Nālandā, (24) Paṭala.

The townships. Seaports. (25) Roruka, (26) Bhārukaccha, (27) Surpāraka, (28) Barbaricum, (29) Tāmralipta.

Social significance of city plan. Medium of artistic, religious and spiritual expression. Educative force.

City-building—non-Aryan and Aryan :

Long before Aryan migration, the non-Aryan settlers of India specialised in city-building. Remains of their art are seen in Mahenjo-daro and Harappa with characteristically modern amenities like masonry drains and regular streets and baths. The Aryans were primarily an agricultural and pastoral people but whether they had come or not from the cities of Mesopotamia and Iran, they might not have been strangers to the city life. Without being good builders they could not

possibly conquer the land from the original settlers who knew the use of fortified cities. Hence though Vedic and Brāhmaṇical cultures are essentially rural, a natural consequence of the consolidation of the Aryan tribal system into large states and kingdoms was the growth from the village settlements into large cities planned on the same principles in which the different village units clustered around the royal palace or citadel. The Epics present a large number of cities in the reader's horizon, dotted all over northern India from Assam to Afghanistan. When Megasthenes visited India "the number is so great that it cannot be stated with precision" (Arrian, X). The Indian tract alone subdued by Alexander is reported by his companions to have contained as many as 5,000 towns, none less than Cos (Pliny, VI. 17).[1]

The science: vāstuvidyā and śilpaśāstra:

The science of town-planning is so ancient in India that its origin is lost in antiquity. The treatises on *vāśtuvidyā* and *śilpaśāstra*, the Mānasāra, the Mayamata, the Yuktikalpataru, the Devi-Purāṇa and works on political science like the Arthaśāstra and the Śukranīti all testify to its remote origin. The patronymic Viśvakarmā—the architect divine, apotheosised master-builders like Maya, Tvaṣṭar and Manu, the mythological genealogies attributed to them,[2] the position of the master-builder as high-priest or sacrificial expert, all confirm the supposition.[3] These and the position of the expounders of the science also prove that the social status of

1 The list was probably compiled from hearsay including every township or defensive outpost raised to hold the surrounding area in check.

2 Viśvakarmāprakāśa, Ch. I.

3 Some of the metal workers and carpenters of South India still retain the epithet 'ācārya' as their caste distinction. See Havell: Aryan Rule, p. 128.

the civic architect was not low. The Mayamata avers that blue blood ran in his veins (abhijātavān).[1]

Treatment of the subject:

The subject of town-planning is discussed under certain heads in the Mānasāra and the Mayamata which signify its perfection. These are (*a*) examination of soil (bhūparikṣā), (*b*) selection of site (bhūmisaṃgraha), (*c*) determination of directions (dikpariccheda), (*d*) division of the grounds into squares (padavinyāsa), (*e*) the offerings (valikarmavidhāna), (*f*) planning of villages and towns (grāmavinyāsa, nagaravinyāsa), (*g*) buildings and their different storeys (bhūmividhāna), (*h*) construction of gateways (gopuravidhāna), (*i*) construction of temples (maṇḍapavidhāna) and (*j*) construction of royal palaces (rājaveśmavidhāna). It will be noted that the construction of Dvārāvatī under the direction of Kṛṣṇa answers to these plans and proocedures (Devi-P., Viṣ. P., ch. 58).

Origin of cities, 1. expansion of villages:

The towns were generally grown out of villages. The plan of the Indo-Aryan town fairly reproduces on a grander scale the plan of the village. Thus the term *gāma* and *nigama* are often indifferently used. The following story about the

1 It has been suggested that he descended in social estimation at least in the time of the Mahābhārata since Maya, the builder of Yudhiṣṭhira's council house is spoken of as a *dānava* being a non-Aryan; this possibly implies that the science having deteriorated among the Aryans there was a lack of competent experts among them. The supposition is far-fetched. The non-Aryans being more advanced in the technique an expert of their race might well be summoned in preference to one from the Aryan stock. See B. B. Datta: Town Planning in Ancient India, p. 14.

origin of the Kuru city of Kammāsadamma is illuminating. "He (Bodhisatta) had a vast lake constructed near the Banyan tree and transported thither many families and founded a village. It grew into a big place supplied with 80,000 shops. And starting from the farthest limits of its branches he levelled the ground about the roots of the tree and surrounded it with a balustrade furnished with arches and gates; and the spirit of the tree was propitiated. And owing to the fact of the village having been settled on the spot where the ogre was converted, the place grew into the *nigama* of Kammāsadamma (Jāt. V. 511). The difference between a *gāma* and a *nigama* is thus one of degree.

2. Amalgamation of villages, natural resources, trade-routes:

A self-contained village with a surrounding wall was not of course likely to undergo urban transformation. More possibly the cities grew out of several hamlets originally clustering around a market place.[1] Or from the advantages of some natural resources,—a mine, a bed of flint, a layer of clay, a village might specialise in an art and acquire more than local importance.[2] More frequently, villages on trade routes soon flourished into cities. The earliest Indo-Aryan settlements were planted on the valleys of the Indus and the Ganges which were the great arteries of commerce in Northern India. The riparian cities had moreover great advantage from military and sanitary points of view. Important

1 *Cf.* the cities of Saptagrāma or Satgaon, Caturgrāma or Chittagong, Pentapolis or 'five cities' (Ptolemy, 2. 2). Mark also the suffixes in modern city names like Cox's bazar, Bagerhat, Lalmonirhat, Narayanganj, Ranigang, etc. *Bazar, hāt* or *gañj* means a market place.

2 *Cf.* Golcunda with its diamonds, Agra with its marble works, Dacca with its silk and so on, and modern factory towns like Jamshedpur, Asonsol, etc.

connexions and crossings of overland routes had more commercial facilities. Hence villages and towns are said to be situated on the cross-section of numerous paths and bye-paths (Dn. XIII. 10). The city of Taxila, it will be seen, was favoured with all these advantages. Such a town with the additional favour of a sea-coast obtained the designation of *pattana* or seaport which is defined as "a town abounding in articles imported from other islands, alive with all classes of people, a land of commercial transactions in the shape of sale and purchase, replete with jewellery, precious stones, money, silk cloths, perfumery and the like, situated in the vicinity of a sea-coast."[1] It is important to note that these littoral settlements are referred to as *pattanagāma* in the Jātakas carrying an older tradition. In course of time when they became full-fledged sea-ports serving as thriving outlets for foreign transactions, the '*gāma*' was dropped and they became cities *par excellence* (panyapattana ; Arth. II. 16).

3. Sacred city and university town :

A divine sanctuary or a sage's nook sometimes became the nucleus of urban settlements. With the ingress of pilgrims and students, shops and resthouses were in demand. Gradually a magnificent sacred city or university town came into being, possibly chosen later for the seat of government by secular authority.[2]

4. Military necessity:

But Indo-Aryan cities like the Anglo-Saxon boroughs of old arose primarily out of a military necessity. To resist

1 Mayamatam, 10. 55-57. In popular parlance a river port also is *paṭṭana*. Jāt. I. 121.

2 *Cf.* Kanchi and Taxila.

invasions or to consolidate conquests it was incumbent to build fortified outposts at important strategic points linking together the military roads maintained by the state. Because of constant internecine warfare, it was hard for a purely commercial town to exist. Hence every town was protected by walls fitted with watch-towers and girdled with ditches. The gates were closed at night and sentries kept post round the clock. In the Vedic literature the word for the city is 'pur' which means 'fort' or 'rampart.' In the Arthaśāstra a city appears with the appellation of *durga, i. e.,* 'difficult to penetrate' fortified with strong defence and other arrangements to resist attack. Its description in the Brahmavaivarta Purāṇa, Kāmandakīya Nitisāra and the Arthaśāstra is strikingly like that of a military encampment. The city of Pāṭaliputta was originally built by Ajātasattu to resist the powerful Vajjis (Mahāparinibbāna Sutta). The city fort was surrounded by a number of suburban settlements (Jāt. VI. 330 f.) where the kings and the high officials repaired for a pleasure jaunt.

Diverse types of cities :

These different circumstances of their origin explain the diversity in character of Indian cities. There were *pattanas* or sea-ports. There were *nigamas* or market towns situated on trade routes.[1] There were *vihāras* or university towns, temple cities, forts with bastions and battlements termed *durga.* A medley of other names are given in the *śilpaśāstras, viz., nagara, rājadhānī, kheṭa, kharvaṭa, śivira, senāmukha, skandhāvāra, sthānīya, droṇamukha, kotmakolaka* and so on. The cities also varied in shape—square or rectangular, circular or elliptic, lotus-like or bow-shaped each having technical appellations for its variety, and each with the peculiar

1 Literally, 'nigama' means a 'trade-route.'

planning of streets and distribution of public places and buildings.[1]

The planned city; principles of planning:

Thus quite promiscuously, village settlements might outgrow their rural framework and attain to urban importance. Despite their natural growth, at certain stages they underwent the skill of a scheming technician. For example, to provide for increasing population and traffic, to improve the defences and broaden the streets, the ruler had to call for the civic engineer (sthapati). Besides there are detailed instructions laid down in the *śilpaśāstras* and concrete instances in other literature, of cities founded with a deliberate planning at the very inception. The rules for the guidance of the builder demanded the preparation of maps indicating density of population in different parts, allocation of sites for castes and professions, distribution of residential, business and industrial areas, of parks and squares with space. When improving or extending existing towns he has to make his project without violently dislocating the existing order and with a consideration for temples, buildings and water-works of importance. As soil specialist he has to survey the ground for its fertility, solidity and mineral resources ; if the city is on river or on sea he has to study the probability of diluvion or erosion. He has to survey general traffic, sewage and water-supply, strategic points of offence and defence, folks in the neighbourhood, trees and plants suitable for culture and verdal beautification and all possibilities for the sanitation and aesthetics of the city. This would meet the demands of current political concepts. The capital ought to have the advantages of the hills, plains and seas, command vegetable, animal and

1 See Datta: Town Planning in Ancient India, Chs. VIII. XI.

mineral resources and be a centre of quick commercial activity. It should be on river bank if not on sea-shore, surrounded by walls (prākāra) and ditches (parikhā) with four gates in four directions, provided with wells, tanks and pools, good roads and parks in roads, and well-constructed taverns, temples and inns for travellers (Śukranīti ; I. 425-33). This is not an idealistic utopia but clearly recalls the numerous city descriptions given in Pali and Sanskrit works. Indian architecture further lays down technical instructions as to road-making, *e. g.*, that they should be like the back of a tortoise, *i. e.*, high in the middle and sloping towards the sides where they are provided with drains and that they should be regularly watered and gravelled and repaired every year (Śuk. I. 531-37).[1]

The real was not at all out of this standard. The lay-out of Indian cities from the far off Śākala in the Punjab to the distant Campā in Anga is realistically set forth in popular stories with minute details.

"Just as the architect of a city, when he wants to build one, would first search out a pleasant spot of ground, with which no fault can be found, even with no hills or gullies in it, free from rough ground and rocks, not open to the danger of attack. And then when he has made plain any rough places there may still be on it, he would clear it thoroughly of all stumps and stakes, and would proceed to build there a city fine, and regular, measured out into suitable quarters, with trenches and ramparts thrown out around it, with strong gateways, watch towers and battlements, with wide squares and open places and junctions (where two roads meet) with

1 The necessity of watering roads and keeping them clear was fully realised. The streets of Ayodhyā were regularly watered. Dropping filth on king's highroad is to be fined with 2 *kārṣāpaṇas* and the filth immediately removed by the offender. Manu, IX. 282.

clean and even highroads, with regular lines of open shops, well-provided with parks and gardens and lakes and lotus ponds and wells, adorned with many kinds of temples to the gods, free from every fault.....And in course of time that city might become mighty and prosperous, filled with stores of food, peaceful and glorious, happy, free from distress and calamity, the meeting place of all sorts and conditions of men. Nobles, Brāhmaṇas.....all these coming to take up their residence there, and finding the new city to be regular, faultless, perfect and pleasant....."

Yathā.....nagaravaḍḍhakī nagaraṃ māpetukāmo paṭhamaṃ tāva samaṃ anunnatam-anoṇataṃ asakkharapāsāṇaṃ nirupaddavam-anavajjaṃ ramaṇīyaṃ bhūmibhāgaṃ anuviloketvā yaṃ tattha visamaṃ taṃ samaṃ kārāpetvā khāṇukaṇṭakaṃ visodhāpetvā tattha nagaraṃ māpeyya sobhanam vibhattaṃ bhāgaso mitaṃ ukkiṇṇa-parikhapākāraṃ daḷhagopur-aṭṭāla-koṭṭakam puthu-caccara-catukkasandhi singhāṭakaṃ suci-samatala-rājamaggaṃ suvibhatta-antarāpaṇaṃ ārām-uyyana-taḷāka-pokkharaṇī-udapāna-sampannaṃ bahuvidha-devaṭṭhāna-patimaṇḍitaṃ sabba dosavirohitaṃ..... atha taṃ nagaram apareṇa samayena iddham bhaveyya phītaṃ subhikkhaṃ khemaṃ samiddhaṃ sivaṃ anītikaṃ nirupaddavaṃ nānājana samākulaṃ.....taṃ nagaraṃ vāsaya upagatā nānāvisayino janā navaṃ suvibhattaṃ adosamanavajjam ramaṇīyaṃ taṃ nagaram passitvā.....(Mil. 330 f.; *cf.* 34, 1 f.)

The city of Indraprastha laid out by Maya for the sons of Pāṇḍu, the city of Dvārāvatī reconstructed by Viśvakarmā under the orders of Śrīkṛṣṇa are concrete instances of such planned cities which were no promiscuous growth. Another picture gives:

"Behold..... a city furnished with solid foundations and with many gateways and walls and with many pleasant spots

where four roads meet. Pillars and trenches, bars and bolts, watch-towers and gates.....

"See various types of birds in the roads under the gateways.....

"See a marvellous city with grand walls, making the hairs stand erect with wonder, pleasant with banners upraised, and with its sands all of gold,—see the hermitages divided regularly in blocks, and the different houses and their yards, with streets and blind lanes between.

"Behold the drinking shops and taverns, the slaughter house and cooks' shops and the harlots and wantons..... the garland weavers, the washermen, the astrologers, the cloth merchants, the gold-workers, the jewellers.

"Crowds are gathered here of men and women, see the seats tiers beyond tiers.....See the wrestlers and the crowd striking their doubled arms, see the strikers and the stricken....." (Jāt. VI. 276).

Municipal extension:

The walls and ditches of the city with its belt of stately trees presented the town a solidarity and corporate entity and prevented the mushroom growth of clumsy outskirts about them. But these defensive works stood in the way of easy expansion. This might be one of the subsidiary reasons which led to the later exclusion of the untouchables and pariahs outside the city gate. The commonest method of town extension, as in the case of Dvārāvatī, was to dismantle the old walls, fill up the moats and erect a new boundary. As this was expensive and laborious, sometimes a ward or sub-town was built adjoining the wall of the main city which occasionally equalled in eminence or even eclipsed the original one. The city of Puri is supposed to have once possessed such a sub-town the ruins of which are still existing. Kāveri-

paddinaṃ is said to have been originally divided into the two parts of Maruvur Pakkam and Paddini Pakkam.[1] Giribbaja and Rājagaha probably offered a similar instance.

'Six great cities':

At the time of Buddha, the six great cities of India (that is to say, the provinces which are now the Uttar Pradesh and Bihar) enumerated in contrast to a *khuddakanagara* or *sākhānagara* were Campā, Rājagaha, Sāvatthi, Sāketa, Kosāmbi and Bārāṇasi which were in Ānanda's estimation proper places to receive his Lord at the time of *nibbāna* (Mahāparinibbāna Sutta).

Campā:

Campā was the capital of Anga, the country to the east of Magadha. Its site is discovered near modern Bhagalpur. It lost its independence to Magadha under Bimbisāra which appears to have never been regained. According to Hemachandra's Sthavirāvalī and Pariśiṣṭaparva, after Bimbisāra's death Ajātasatru made Campā his capital, but his son shifted to the newly built city of Pāṭaliputra (Canto VI). In the Anuśāsanaparva it is said that the city was surrounded by groves of Campaka trees (42). The Jātakas represent it as equipped with gates, watch-towers and walls (dvāraṭṭālakapākāra, VI. 32). Hiuen Tsang witnessed these walls and the vestiges of the mound on which they stood are still existing surrounded by a ditch on three sides and by the Ganges in the north. It was a sacred place for both the Buddhists and the Jainas. The Buddhist works mention an artificial lake excavated by Queen Gaggarā with groves of Campaka trees on its banks where wandering monks used to reside in the

1 V. Kanakasabhai Pillai: The Tamils 1800 years ago, pp. 24 f.

time of Buddha. It appears as a flourishing city in the Jaina work Campaka-śreṣṭhi-kathā which enumerates among the castes and crafts of the town—perfumers, spice-sellers, sugar-candy-sellers, jewellers, tanners, garland-makers, carpenters, goldsmiths, weavers, washermen, etc,[1] In the Daśakumāra-carita, Campā is seen abounding in rogues.

Rājagaha :

Rājagaha, modern Rājgir, was in Buddha's time not only the capital of Magadha but the spiritual metropolis of India. Innumerable folklores, personal reminiscences of Buddha and his faithfuls, and spiritual discourses are associated with this place in the canon. It comprised of the hill fortress of Giribbaja surrounded by five hills and the later town of Rājagaha proper built by Bimbisāra at its northern foot. According to the Mahābhārata the old Rājagṛha or Giribraja-pura was ruled by the legendary king Jarāsandha (II. 21) who was killed by Bhīma in a hefty duel. The fortifications of Giribbaja and Rājagaha, still extant, are 4½ and 3 miles respectively in circumference.

Sāvatthi :

Sāvatthi, in Buddha's time was capital of Kosala under king Pasenadi. It is identified by Cunningham with Saheth Maheth on the Nepal border on the banks of the Rapti then known as Aciravatī. It is traditionally associated with a great many Buddhist legends and folk-tales. Out of the 498 canonical Jātakas 416 are said to have been recounted by Buddha at this place. The famous lay devotee Anāthapiṇḍika hailed from here and here he purchaased the Jetavana where a *vihāra* was built. As the birthplace of two Tīrthaṅkaras,

1 MM. Haraprasad Sastri: Catalogue of Sanskrit Manuscripts.

the place was sacred to the Jainas too as Candrikāpurī or Candrapurī. It was a great emporium whence caravans started with 500 cartloads of wares (Jāt. IV. 350).

Sāketa or Ayodhyā :

Sāketa was another important Kosala city and sometimes its capital (Mahāvastu, I. 348 ; Jāt. III. 270). Its site has been discovered in the Unao district of Oudh. Its identification with Ayojjhā is doubted by Rhys Davids, for both are mentioned as existing in Buddha's time. The present city of Ayodhyā is according to him at a corner of Sāketa. "They were possibly adjoining, like London and Westminster."[1] But in the Rāmāyaṇa and in Kālidāsa's Raghuvaṃsa Sāketa has been explicitly called the capital of king Daśaratha although that position is habitually attributed to Ayodhyā. The city must have had two names which are indiscriminately used both in Pali and Sanskrit.

Ayodhyā is unimportant in the Pali canonical works and is not observed in the Mahābhārata. In the Rāmāyaṇa, it buts in with the full grandeur of a metropolis. Situated on the banks of the Sarayu, it was a well fortified city, protected on the other sides by a deeply excavated moat kept continually filled with water, 12 *yojanas* in length and 3 *yojanas* in breadth. Daśaratha multiplied its habitations (purim āvasayāmāsa). The city had fine wide streets full of traffic, symmetrically arranged, regularly watered and occasionally strewn with full-bloomed flowers. It had massive gates, was intersected with small crossways (suvibhaktāntarāpaṇaṃ), equipped with mechanical contrivances and arms (sarvayantrāyudhavatī), inhabited by all sorts of mechanics (sarvaśilpī) provided with dramatic parties (bahūnāṭaka saṃghaiśca

1 Buddhist India, p. 39.

saṃyuktām), fitted with parks and mango-gardens and encircled by a line of big Śāla trees. The fronts of its buildings were harmoniously arranged (suniveśita-veśmāntām). It was frequented by merchants from different countries and garnered with paddy and rice (I. 5. 9 ff). It had the auspicious shape of a bow, the string being along the river (Kālikā Purāṇa, 84, 237 f).[1] Śāketa is referred to as Sagoda by Ptolemy (2. 25).

Kosāmbi :

Kosāmi was capital of the Vatsas or Vaṃsas (Jāt. IV. 28; VI. 236) on the Jamunā. Its king was Udayana whose elopement and marriage with Vāsavadattā, the princess of Avanti form the theme of a dramatic legend. "It was the most important *entrepôt* for both goods and passengers coming to Kosala and Magadha from the south and west."[2]

Bārāṇasi :

Bārāṇasi, situated at the confluence of the Ganges and the Gumti (Mbh. XIII. 30) was the capital of Kāsi which, at the time of Buddha, formed part of the kingdom of Kosala. It was a seat of Buddhist learning and philosophy, remains of which are scattered at Sarnath. But when Hiuen Tsang visited the city, "there were twenty Deva temples, the towers and halls of which are of sculptured stone and carved wood. The foliage of trees combines to shade (the sites), while the pure streams of water encircle them." Like Taxila it later attained the fame of a university town. Although at the time when the Jātakas were composed it was a centre of learning

1 In the Mānasāra and the Mayamata this design of a village or town is called Kārmuka.

2 Rhys Davids: *loc. cit.*

of some standing (I. 436, 447, 463 ; III. 537), students had to travel all the way to Taxila from Banaras for the higher courses of *sippas* and *vijjās*. At that time it was a great centre of industries (I. 98) and a big and prosperous city, 12 *yojanas* in extent (II. 402)—pākāraparikkhepo dvādasayojaniko hoti, idaṃ assa antarabāhiraṃ pana tiyojanasatikaraṭṭham (I. 125).

Vesāli :

Ānanda's list is far from exhaustive ; and even in Buddha's time, in the Madhyadesa itself, the cradle of his faith, there were other cities which could claim rank with the conventional six. Vesāli, the capital of the Vajjis, a powerful confederation of republican tribes was situated in the Muzaffarpur district (Basarh) on the left bank of the Gaṇḍak (Rām. I. 4). It is said to be three *yojanas* north of the Ganges and five *yojanas* from Rājagaha (Com. on Sut. II. 1). The Jātakas aver that in Buddha's time it was a highly prosperous city (paramasobhaggapattaṃ) encompassed by a triple wall each a *yojana* distant from the next, having three gates with watch-towers (I. 504). According to the Mahāvagga, "at that time (Buddha's) Vesāli was an opulent (iddhā), prosperous (phītā), populous (bahujanā) town, crowded with people (ākiṇṇamanussā), abundant with food (subhikkhā). There were 7,707 storeyed buildings (pāsāda), 7, 707 pinnacled buildings (kūṭāgāra), 7,707 pleasure grounds (ārāma), 7,707 lotus ponds (pokkharaṇi)" (VIII. 1), The prosperity was no doubt eclipsed by Pāṭaliputra when Ajātasatru annexed the land of the Vajjis to Magadha and built the new city to hold them under subjection.

Mithilā :

In the same district of Muzaffarpur has been located the city of Mithilā (Janakpur), capital of Videha, said to have

been seven *yojanas* in extent (circumference ? sattayojane mithilānagare, Jāt. III. 365, IV. 315, VI. 246). It was undoubtedly a big and opulent city, for at its four gates there were four *nigamas* or wards called the East Town (pācinayavamajjhaka), the South Town, the West Town and the North Town each inhabited by wealthy merchants (seṭṭhi, anuseṭṭhi, VI. 330 f). In the Mahāummagga Jātaka it is said that a king dug three moats round it,—a water-moat, a mud-moat and a dry-moat.[1] The great Videhan king Janaka ruled in this city.

According to a long versical narrative, Mithilā was spacious and splendid (visālaṃ sabbatopabham), divided into well-measured blocks (vibhattam bhāgaso mitaṃ) having many walls and gates (bahupākāratoraṇaṃ), strong towers and palaces (daḷhamaṭṭālakotthakaṃ), intersected by big roads (suvibhattaṃ mahāpathaṃ), laid out with shops at regular intervals (suvibhattantarāpaṇaṃ), thick with traffic of carts and chariots (gavāssarathapīḷitaṃ) and beautified with parks and gardens (ārāmavanamāliniṃ) (Jāt. VI. 46 ff). The account of the Mahābhārata is closely similar. The city was ruled over by Janaka and "adorned with the flags of various guilds." It was "a beautiful town resounding with the noise of sacrifices and festivities," "furnished with splendid gateways, abounding with palatial residences." "Protected by walls on all sides, it had many splendid buildings to boast of. That delightful town was also filled with innumerable cars. Its streets and roads were many and well laid and many of them were lined with shops. And it was full of horses and cars and elephants and warriors. And the citizens were all in health

1 The Arthaśāstra enjoins three ditches round a city (II. 3). The Devī-Purāṇa says that the number should be according to the requirements of the ground (72. 28).

and joy and they were always engaged in festivities" (III. 206. 6-9).

Kapilavastu :

Kapilavastu was the headquarters of the Sākyas, another republication tribe, and the birth-place of Buddha. It comprised of several villages or wards, of which one was Lummini, where Buddha was born and which is identified with Rummindei where Aśoka's Pillar Edict records the commutation of *bali* and reduction of *bhāga* to 1/8 for the villagers. Kapilavastu is located in Gorakhpur district on the border of Nepal and the Uttar Pradesh from archæological discoveries and from the distances given from other known places, *viz.*, 60 *yojanas* from Rājagaha, 50 from Vesāli, 6 or 7 from Sāvatthi, and so on. It had a central mote-hall (santāgāra) where deliberations and administrative business were carried on.[1]

Ujjeni :

Ujjeni or Ujjainī, the Ozene of the Periplus, was the capital of Avanti, one of the seven sacred cities of the Hindus, ruled in the time of Buddha and Bimbisāra by Caṇḍa Pajjota, whose son Vidudhaba massacred the Sākyas at Kapilavastu for deceitfuly giving a slave-girl in marriage to his father. Under the Maurya administration, this was a provincial headquarter. Ptolemy notes that it was the capital of Tiastenes (Chaṣtana). The famous Vikramāditya having expelled the Scythians and established his power over the greater part of India made this city his capital. At the time of the Periplus, it was an important mart linking the northern countries to the

1 For the legendary origin of Kapilavastu, see S. Hardy ; Manual, pp. 133 ff.

seaport of Barygaza. Fa-hien refers to it as a flourishing university town.

Takṣaśilā :

Takṣaśilā (Pali—Takkhasila), the reputed centre of Brāhmaṇical learning flourished much earlier than the time of Buddha. It is profusely referred to in the Pali canonical literature and men of eminence like Pāṇini the grammarian, Jīvaka the physician and Cānakya the politician claimed this as their *alma mater*. The foundation of the city is ascribed in the Rāmāyaṇa to Bharata who is said to have placed his son Takṣa as king there (VII. 114. 201). Literally the word means "hewn stone" and Wilson thinks that the city might have been built of stone instead of brick or mud as were most other cities of India. Presumably it grew to be the capital of Gandhāra (Jāt. I. 217). Its king Omphi submitted to Alexander when he invaded it. Under the Mauryas it remained a viceregal centre, a large city and governed by good laws (Str. XV. i. 28). After them it was successively the capital of the Bactrian, Saka and Pahlava kings. Arrian describes the city as great and wealthy (V. 8) and as the most populous that lay between the Indus and the Hydaspes. Strabo tells the same thing and with Hiuen Tsang praises the fertility of its soil (XV. i. 17, 28). The latter notices its springs and water courses which account for this fertility. Pliny calls it a famous city and states that it was situated on a level where the hills sank down into plains. Near the middle of the 1st century A. D. Appollonius of Tyana and his companion Damis are reported to have visited it and Philostratos the biographer described it as being about the size of Nineveh, walled like a Greek city and the residence of a sovereign. The city was "divided into narrow streets with great regularity" reminding the

travellers of Athens. There was also a garden, one stadium long with a tank in the midst filled with cool and refreshing streams. Outside the wall was a beautiful temple of porphyry, wherein was a shrine round which were hung pictures on copper tablets representing the feats of Alexander and Poros (Priaulx's Appollon., pp. 13ff).

Its natural advantages :

The valley in which the remains of Taxila lie, is a singularly pleasant one, well-watered by the Haro river and its tributaries and protected by a girdle of hills, on the north and east by the snow-mountains of Hazra and the Murree ridge, on the south and west by the well-known Margalla spur and other lower eminences. "This position on the great trade-route which used to connect Hidustan with Central and Western Asia, coupled with the strength of its natural defences, the fertility of the soil, and a constant supply of good water, readily accounts for the importance of the city in ealry times."[1]

Its ruins and plan :

The remains of the city are distributed into three distinct sites within three and half miles of each other, *viz*,, Bhir mound, Sirkap and Sirsukh. This fact, characteristic of many other ancient towns reveals important socio-political developments. Firstly, there was the need of expansion of old towns and the convenient way was to start with a suburban townlet adjoining the borders rather than to expand by demolishing old parapets and dumping up the ditches. But the change was more often brought forth by military than by civic requirements. Many of the oldest cities were moving

1 Marshall : Guide to Taxila, pp. 1 f.

camps of kings ; and the site from which a king shifted became a deserted city. For a conqueror to use this as capital was against the rules of politics apparently because its ins and outs were known to enemy agents. Hence he had to found his own capital which was conveniently done at the neighbourhood of the old site.

These ruins also afford a clear glimpse into the old city plan. "The city of Sirkap shows several large blocks of dwellings, separated one from the other by narrow side streets.....The unit of their design is the open quadrangle surrounded by chambers (catuḥśālā) and this unit is repeated two, three or four times according to the amount of accommodation required by the occupants, the small rooms fronting on the streets being usually reserved for shops. The walls were constructed either of rough rouble or diaper masonry,"[1] About its construction and material prosperity, the Rāmāyaṇa says that the twin cities of Taxila and Puṣkalāvatī were rich in treasures and embellished with gardens ; characterised by intensive commerce, great concourse of people, shops, symmetrically arranged in rows on both sides of the main thoroughfares ; beautified with splendid shrines and massive trees ; so that it took five years to build the cities (VII. 114).

Puṣkalāvatī :

Like Taxila, the city of Puṣkalāvatī or Puṣkarāvatī is claimed to have been founded by Bharata and placed under the rule of his son Puṣkala.[2] It was the western capital of Gandhāra. It is placed in the district of Charsadda on the river now called Landai which Alexander crossed by con-

1 *Ibid.*, pp. 70 f.

2 The historicity of these two eponymous heroes is doubtful. As Taxila may well have owed its name to its stone-built houses, so Puṣkalāvatī may have been so named due to its attractive lotus-ponds,

structing a bridge (Str. XV. i. 27). He besieged and reduced the city and set up his protegé there (Arrian. Anab. IV. 22). It stood on important trade routes from Bactria to Barygaza (Peri. 47) and to Pāṭaliputra. The city is also noticed by Ptolemy (I. 44) and by Arrian as a very large and populous one (Indica, I).

Kampilla :

Kampilla (Kampil in Farukkabad district), was the capital of the northern Pañcālas on the northern bank of the Ganges (Jāt. V. 98). In the Mahābhārata, however, it appears on the bank of the Ganges but as the capital of south Pañcāla, which became the seat of king Drupada after he was defeated by Droṇa's pupils (I. 138. 73 f) while Ahicchatra (in Rohilkhand) was capital of north Pañcāla.

Ðantapura :

Dantapura is referred to as capital of Kalinga (Jāt. II. 367, IV. 230 ; Dn. II. 235 ; Mah. III. 361). It is the same as Pliny's Dandaguda, the town of the Calingoe. Tradition ascribes the name to the tooth relic of Buddha preserved there. This was obviously a later ascription after the name was already in vogue from some other origin.[1] The name may have been derived from the elephant-tusk or ivory for which Kalinga was famous (Arth. I. 2). The city has been identified by Cunningham with Rājamāhendri, and by others with Puri. It may more plausibly be placed at Dantan on the Kasai in Midnapore district. At the time of Khāravela the capital was removed farther south where the new city of Kalinga (Mukkhalingam and adjacent ruins in the Ganjam

1 *Cf.* how under the influence of Buddhist legends Takṣaśilā (hewn rock) became Takṣaśira (severed head) and Adicchatra (Adi's parasol) became Ahicchatra (parasol of snake's hood).

district) was built and a settlement of 100 masons was created free from revenue, obviously for further beautification of the city (Hathigumpha In.)

Mathurā :

Mathurā (a little south of modern Mathura) on the Jumna, the capital of the Śūrasenas was the reputed birth-place of Kṛṣṇa and the scene of his juvenile adventures. In Buddha's time it is barely mentioned while in the Milinda it is reported to be one of the famous places in India (331). Hence "the time of its greatest growth must have been between these dates."[1] Pliny knows the city. Arrian knows it as a great city and Ptolemy as 'the city of the gods.' This is a cogent observation for under the Kuṣāṇas it became the seat of Jaina religion and learning and dotted with numerous sculptures and votive inscriptions. The Uttarakāṇḍa of the Rāmāyaṇa records that Śatrughna founded it after slaying Lavaṇa, that it stood on the Jamunā the shape of a half-moon,[2] that its land was fertile and productive, that its shops teemed with merchandise, that its buildings were reconstructed and parks and squares laid out and that it flourished with brisk business transactions carried on by merchants from different countries (83. 9 ff).[3] The Harivaṃsa confirms the same report stating that it was like a half-moon along the Jamunā, that it was rich in gardens and groves (udyānavana-sampanna) and decorated with ramparts and turrets (chayāṭṭālaka keyūraḥ) (Viṣṇuparva, ch. 54). "It was sufficiently famous for the other

1 Rhya Davids: Buddhist India.

2 *Cf.* Ayodhyā and the Kārmuka design. *Ardhacandra* is no crescent.

3 The Jainas thus appear as a mercantile community even in the early Christian centuries.

Madhurā in Tinnevelly first mentioned in the Mahāvamso to be named after it''[1]

Dwārakā, its plan :

Dwārakā or Dvārāvatī said in the Mahābhārata to have been founded by Śrīkṛṣṇa by renovation of the old sea-coast city of Kuśāsthalī is perhaps of later growth like Mathurā. Yule and Lassen have identified this with the Baraca of the Periplus and Barake of Ptolemy (I. 94) on the tip of the Kathiawad Peninsula the gulf whereof was very difficult for navigation (40). The Harivaṃsa describes the construction of the city in great details. When Śrīkṛṣṇa communicated his plan to the chief architect Viśwakarmā, he suggested a further extension for the accommodation of the citizens. Śrīkṛṣṇa proceeded with his own and realised his error after a few years. A new scheme was initiated and the municipal area extended to 12 *yojanas* × 8 *yojanas*. Old walls were dismantled and old ditches dumped. The surrounding area was cleared and prepared for the extension. Śrīkṛṣṇa gave instructions that building plots were to be properly spaced, triangular and quadrangular 'islands' were to be created on the cross-ways and other suitable spots ; the main thoroughfares were to be measured up, the orientation of buildings ascertained. Thus ordered, the Yādavas selected the site, measured up the boundary lines, divided the plots and on an auspicious day made offerings to the presiding deities of the *vāstu*. Then Kṛṣṇa reiterated his instructions and laid special stress on the establishment of temples. The orders were carried out and special sites reserved for trees. The original city had its traffic mainly through lanes and bye-lanes (rathyā-koṭi-sahasrāḍhyā). In the enlarged city there were eight main

1 Rhys Davids: Buddhist India.

roads—four latitudinal, four longitudinal—surrounded by a boulevard. Sixteen public squares were erected at the sixteen cross-sections.[1] The city was bedecked with reservoirs of pure water troughs and sheds for drinking water, parks, orchards and gardens. Fortifications were built and ditches excavated around it which looked as wide and deep as the river Ganges. Defensive weapons and missiles were stored in large number (Viṣṇuparva, chs. 58, 98).

Control of municipal authorities :

The veracity of these minute details may be doubted with regard to the city of Dwārakā, but by no means with regard to the general principles of town-planning. The building of the Kuru township of Kammāsadamma as described in the Jātaka story and already quoted, reflects the same principles in their original and nebulous form. The *śilpa-śāstras* develop the same principles into a civic science and the builders of an age of progressive urbanisation gave effect to them with ingenious additions to meet the military, economic, religious, sanitary and aesthetic requirements of the times. Such radical reconstructions as described in the Harivaṃsa and in the theoretical works also presuppose a large control on private owners, more extensive than any modern improvement trust can boast of. No private interest was allowed to stand in the way of what was conceived as a public necessity.[2]

1 Thus Dvārāvatī had six longitudinal streets including the boulevard while Calcutta can boast of at most five:—*viz.*, Circular Road, College-Wellesley Street, Chitpore-Chowringhee Road, Strand Road.

2 The Śukranīti says that private ownership should not be allowed in towns. Plots of ground were allotted to persons during their life-time only for laying out gardens and erecting houses thereon. Ch.II 11.421-24.

Indraprastha :

As Dwārakā was built by the divine architect Viśwakarmā under the orders of king Śrīkṛṣṇa, so the city of Indraprastha was constructed by the demon Maya at the requisition of king Yudhiṣṭhira. At the site cleared by the conflagration of the Khāṇḍava forest, on the banks of the Jamunā arose the stately city defended with sea-like ditches and sky-scraping parapets and adorned with gates, towers and palatial buildings. There was a fine lay-out of large thoroughfares. There were magnificent houses, pleasant retreats, museums, artificial hills, numerous tanks brim- fine ming with water, beautiful lakes fragrant with lilies and lotuses, and lovely with varieties of birds, many charming parks and gardens with tanks at the centres and numberless fine ponds (Mbh. I. 217). Ptolemy notices this city as Indabara (I. 49).

Sāgala :

Sāgala or Śākala identified by Fleet with modern Sialkot in the Lahore division is said to have been the capital of Madra (Jāt. IV. 230). It was ruled over by the Madra king Śalya, the brother of Pāṇḍu's wife who participated in the Bhārata war (Mbh. II. 32). It was also ruled over by king Aśwapati, father of Sāvitrī (Matsya Purāṇa, ch. 206). Cunningham says that it was Alexander's Sangala which is known to have offered him a stout resistance, although the position disagrees with that assigned by Alexander's historians.[1] It was the capital of the Greek king Demetrius after his expedition from Bactria and of his successors down to Dionysius. It is referred to as Euthydemia by Ptolemy (I. 46). It undoubtedly rose to the acme of its glory under

1 Arrian and Curtius have noted that this was to the east of the Ravi whereas Śākala according to the Karṇaparva was to its west.

king Menander. The Milindapañho opens with a full-throated description of the Yona city which is quoted at the beginning of this Book and which substantially recalls the picture of Dwārakā and elaborates upon those of Vesāli, Indraprastha and other cities.

Pāṭaliputra :

With the city of Pāṭaliputra we pass the quicksands of legends and folklore and tread on firmer historical ground. The stages of its evolution are not shrouded in the mist of Epic and Purāṇic traditions. In the earlier Pali literature, supposed to be contemporary of Buddha, it is referred to as Pāṭaligāma. But it had great strategic and commercial value, situated as it was on the confluence of the Ganges and the Son (Erannoboas or Hiranyavahā) one of its largest tributaries. It was near to the land of the Vajjis whose capital Vesāli was conquered by Ajātasattu. Hence the Magadhan king deputed his astute ministers Sunīdha and Vassakāra to convert it into a fort in order to hold the Vajjis in check (Mv. VI. 28 ; Jātakas). His successor Udayin removed the capital from Rājagaha to this new city. Thenceforth Pāṭaliputra remained the holder of imperial tradition under the successive dynasties of Śaiśunāga, Nanda, Maurya, Sunga, Kaṇha and the Gupta. After the Guptas Kanauj competed with it and finally it was completely overshadowed by the parvenu. When Fa-hien visited it, it was still like "the work of genii beyond the power of human skill." But in Hiuen Tsang's time all that remained of the splendid metropolis were heaps of debris and an insignificant village consisting of about 200 or 300 miserable houses. The city, thus, after a shining career of roughly 900 years sank within a century to the oblivion from which it had arisen in the brief space of a few decades.

According to Megasthenes, Palibothra was the greatest city in India, the shape of a parallelogram, 80 stadia along the river and 15 stadia in breadth, encompassed with a wooden wall (the remains of which have been unearthed and preserved), pierced with loop-holes for the discharge of arrows, crowned with 570 towers and 64 gates, further surrounded by a ditch 600 feet wide and 45 feet deep for defence and for receiving the sewage of the city. The royal palace situated in the centre, surpassed the splendour of Susa and Ecbatana (Str. XV. i. 35 f., Arrian. 10). Obviously it attracted from all northern India its overland and river-borne trade. It is recorded from the mouth of Buddha that as far as Aryan people resort, as far as merchants travel, Pāṭaliputra will be the premier city, a centre for the interchange of all kinds of wares (yāvatā Ānanda, āryaṃ āyatanam yāvatā vanippatho idaṃ agganagaraṃ bhavissati Pāṭaliputtaṃ puṭabhedanaṃ, Dn. XVI. i. 28). The 'prophecy' was evidently interpolated in a day when Pāṭaliputra was no longer a fishing village but the unrivalled metropolis of Magadha.

Tosali :

Tosali has been decisively located with the finding of the name in the Aśoka inscriptions on the Dhauli rock. Vestiges of a larger city have been discovered not far from the site of the monument and it is almost certain now that this was Aśoka's capital in the province of Orissa. It probably continued to be so till the time of Ptolemy who called it a metropolis but wrongly placed to the east of the Ganges thus misleading Lassen to locate it somewhere in the province of Dhakkā. The city stood on the margin of a pool called Kośala-Gangā and probably hence the compound Tośala-Kośalakas in the Brahmāṇḍa-Purāṇa (ch. 51) as suggested by Wilford.

Śrīnagarī :

Kalhaṇa the chronicler of Kashmir says that the city of Śrīnagarī in Kashmir was built by Aśoka which was most important on account of the 96 lacs of houses resplendent with wealth (Rāj. I. 104). Cunningham identifies this with the present village of Pandreṣṭhān (Purāṇādhiṣṭhāna or old capital) on the right bank of the Vitastā some 3 miles above modern Srinagar.[1]

Kānyakubja :

Kānyakubja or Kanauj was a leading city in Pañcāla during the period of early Buddhism. According to Rhys Davids it was the capital of the second or southern Pañcāla.[2] Its remains have been traced 65 miles WNW. from Lucknow. It is referred to by Ptolemy as Kanogiza on the course of the Ganges (2.22) and as Kanagora in Prasiake (I. 53). It is mentioned in Patañjali, the Mahābhārata and the Rāmāyaṇa, the last recounting the Purāṇic story that Vāyu transformed here the 99 daughters (kanyā) of its king Kuśanābha into hunchbacks (kubjas) for scorning him.

Nālandā :

Nālandā, of which the relics have been discovered in the village of Bargaon, 7 miles to the north-west of Rājgir, is referred to in the Majjhima as a stronghold of the Jainas or Niganthas, a rich and populous city (iddhā, ˉphītā, bahujanā, ākiṇṇamanussā). From the ruins it appears to have been surrounded with noble tanks on all sides. But situated as it was close to the city of Rājagṛha—it is actually described as

1 For discussion on Cunningham's views see Stein's note on Rāj. I. 104, translation.

2 Buddhist India.

a suburb of Rājagṛha (Kalpasutra, p. 122), it apparently did not flourish until about the beginning of the Christian era.[1] It is not known from when dates its rise as the foremost university town in the East taking the mantle from Taxila as we find in the records of Hiuen Tsang and I-tsing.

Paṭala :

Paṭala, says Arrian, was situated at the head of the Delta where the two great arms of the Indus dispart. This indication would have sufficed for its identification but for the fact that the river very often changed its course shifting its point of bifurcation. Arrian says that Paṭala was the greatest city in the parts of the country about the mouth of the Indus. It figures conspicuously in the history of the Macedonian invasion. In its spacious docks Alexander found suitable accommodation for his fleet which had descended the Indus. Seeing its fine commercial and strategical situation he strengthened it with a citadel and made it a military centre for controlling the warlike tribes in its neighbourhood. In Sanskrit Paṭala means 'the trumpet flower' and Cunningham thinks that the Delta may have derived its name from its resemblance to the shape of a flower.

The small cities :

As opposed to these opulent cities were sorry little suburban towns beset with jungle (khuddakanagaraka, sākhānagaraka, ujjaṃgalanagaraka) like Kusinārā the city of the Mallas unfit as a place where the holy Buddha could attain *nirvāna.* Similar were the Malla townships of Pāvā and

1 Bālāditya who lived at the end of the first century A. D. is reported to have built the great temple at Nālandā. Rajendralala Mitra: Buddha Gaya, p. 247.

Anupiyā, Kiṭāgiri of Kāsi, Koli, Sajjanela and Haliddavasana of the Koliyas, Āpana of Anga, Haṃsavati near the Sākya and Thullakoṭṭhika near the Kuru country.

Seaports :

Apart from these inland cities there were seaports or *paṭṭanas* whose main importance was commercial and which served as gates to India's seaborne trade. Although the major part of India's foreign trade was diverted to the extensive seaboard of the south, the coasts of Bengal, Orissa, Kathiawad and Sind had their ports which exchanged cargo with all countries from Rome to Java and Cambodia. One of the earliest of these was Roruka later known as Roruva, the capital of Sovīra (Jāt. III. 470 ; Dn. II. 235 ; Div. p. 544). It is not exactly located but must have been somewhere on the eastern coast of the Gulf of Cutch. It has been identified by some with Ophir or Sophir where Solomon's vessels had traded. Caravans arrived here from all parts of India including Magadha.

Bhārukaccha, Sūrpāraka, Barbaricum, Tāmralipta :

Bhārukaccha or Bhṛgukaccha or Barygaza of the Greeks was on the site of modern Broach the seaport of the kingdom of Bhāru (Jāt. IV. 137) which may have flourished after the waning of Roruka out of importance (Div. pp. 544 ff). Sūrpāraka was the capital of Aparānta or Northern Konkan.[1] It has been satisfactorily identified with the Ophir to which Solomon sent his ships hired from the Tyrians. Supārā had such a coastal situation that western traders crossing the ocean under the monsoon would naturally direct their course thither. The name Supārā is almost identical with that of

1 R. G. Bhandarkar: History of the Deccan, III, p. 9.

Ophir when it takes an initial 'S' becoming Sophara as in the Septuagint and Sofir which is the Coptic name for India.[1] Bhārukaccha and Suppāraka were the great ports of the Andhras or Sātavāhanas and contributed to their phenomenal wealth. The Periplus refers to another seaport on the western coast, *viz.*, Barbaricum (Barberei—Ptolemy, I. 60), the port of the Scythian metropolis of Paṭala and Minnagara (38) or, according to Sanskrit, of Barbara country. It also refers to the great eastern emporium of Tāmralipta (modern Tamluk) situated at the mouth of the Ganges. It is also mentioned by Ptolemy (Tamalitês, 1, 73) and in the Mahābhārata and the Purāṇas. From this port Vijaya is said to have sailed for and conquered Ceylon.[2]

Social significance and educative value of towns :

So far for the Indian cities known over the globe for their phenomenal wealth and culture many of which faded away or sank into oblivion with amazing rapidity leaving behind nothing but the name and dilapidated bricks to recall their glory. The list is far from comprehensive for our space and period. It is impossible to disentangle the identity and origin of the innumerable cities from their mythic cobwebs. But the foregoing account may help to give a general picture of cities of which there is a marked uniformity over the differences of time and place, and of the various conditions of their development, *viz.*, military, demographic, industrial and commercial. The city architecture also brings forth the social life of town-dwellers. The richer people, the military and

1 Many Biblical anthorities locate Ophir on the Arabian coast of the Persian Gulf, the Indian names for the products showing only that the place was a trading centre with India.

2 For the trade of these countries, see *Infra*, Bk III. Ch. V.

mercantile magnates resorted to cities in large number and at their behest the artists poured their skill on public buildings to give expression to the happy life, the traditions and ideals of their masters. They decorated the temples, *stupas* and caves with relief sculptures presenting pictorially the soul-stirring episodes from the career of Rāma, Buddha, Hanumat, Kṛṣṇa, Śiva, Viṣṇu and other divine or sacred lives. The epics, legends and folklores of the land were an inexhaustible store of material for these artistic, religious and martial expressions. These impulses combined with the national ideal which, blazoned forth from the public buildings inculcated humanising and ennobling sentiments. The mute walls and colonnades of these buildings were thus great educative agents disseminating national culture. Besides being the nurseries of corporate ideals and military and artistic endeavours Indian cities were great schools of nationalism in its most liberal and comprehensive sense. It was this characteristic which gave a peculiar stamp to Indian civic life and gave Indian cities the distinctive mark of individuality which evoked the wonder and admiration of their visitors.

CHAPTER II

THE MUNICIPAL CORPORATION

The village and the town. No sharp cleavage. Distinction, simplicity and uniformity *vs.* complexity and diversity.

Extension of co-operation. Charitable and religious activities. Aldermen, Municipal administration—bureaucratic and democratic control. Municipal function.

The corporate person. Public places and civic amenities.

Town a product from village :

As explained in the previous chapter, the town was an automatic, organic growth from the village. This is proved not only by the plan of the city or village given in the *śilpaśāstras* and the external features like gates, walls and public works in the description of both ; methods of local government, public institutions and popular customs as seen in the *pura* or *nigama* are mostly logical developments from those in the *gāma.*

Social divergence :

There was no complete cleavage between the town and countryside. But the antiquity of the Sanskrit words *'paura'* and *'jānapada'* show that a distinction had appeared early. In the Jātakas *janapadā* and *negamā* are often compounded (III. 513, IV. 262, 449 ; V. 221, VI. 15 ; Mil. 121). To the townsfolk the village churl, the man from the *dehāt* was a different social category although relations were not always bad. We come across matrimonial transactions between the two parties sometimes successfully performed (Rājagahaseṭṭhi attano puttassa janapadaseṭṭhino dhītaraṃ ānesi, IV. 37) and on other occasions broken down when the parties (nagaravāsino, janapadavāsino) fell to abusing each other (I. 257).

Trade transactions were also there :—Sāvatthinagaravāsī kīr'eko kuṭumbiko ekena jānapadakuṭumbikena sadhiṃ vohāram akāsi (II. 203).

Economic disparity :

The essential difference was in the economic structure of towns and villages. The villages were the productive units of the country given to tillage and small handicrafts. The towns were centres for distribution and exchange, of big business and industrial combines where, besides their own wealth, the wealth of the country accumulated and attracted in its turn learning and culture as well as luxuries and parasite professions like stage-acting, dancing, singing, buffoonery, gambling, tavern-keeping and prostitution. The more sophisticated, luxurious and heterogeneous habits of the town are therefore apparent. This is clearly brought forth in the Arthaśāstra chapter on Janapadaniveśaḥ or foundation of villages. No guilds other than local co-operative guilds are allowed entrance into them. Nor are there to be public halls (śālāḥ) for disport and pleasure. Actors, dancers, singers, music-players, buffoons (vāgjīvana) and bards (kuśīlava) are not allowed to enter for profit and disturb the work of villagers who being helpless are always bent upon their field (nirāśrayatvāt grāmāṇāṃ kṣetrābhiratatvāt, I. 1). The jealous attempt to guard agriculture against the corrupting diversions of the town shows clearly that there was a deep-seated difference and loss of contact in town life and country life, thanks to which Megasthenes observed that "husbandmen themselves with their wives and children live in the country and entirely avoid going into town" (Diod. II. 40).

But the transition was gradual ; and not all the wholesome features of the *gāma* were lost in the process. The best part of it was the translation of the rural associate life to a

civic consciousness and to the idea of a municipal corporation with all its legal consequences.

Corporation of towns, streets and wards ; benevolent works :

In its corporate life and co-operative activities the *nigama* is a replica of the *gāma* described above.[1] Only we find the spirit of co-operation extended from the village whole to the streets and wards of the municipality. "That the street is a kind of club, the very architecture, with its verandas and stone-couches bear witness to."[2] This co-operative effort was the mainspring of philanthropic and religious activity. Street corporations (vithisabhāgena), municipal wards and sometimes all citizens collectively at Sāvatthi and at Rājagaha (gaṇabandhanena bahu ekato hutvā, sakalanagaravāsino chandakam saṃharitvā) were active in the entertainment of Buddha and the Brethren (Jāt. I. 422, II. 45, 196, 286). "On this occasion all the inhabitants had made such a collection of all necessaries ; but counsels were divided, some demanded that this be given to the heretics, some speaking for those who followed the Buddha.....then it was proposed to divide on the question and accordingly they divided ; those who were for the Buddha were in the majority."[3] We have noticed the *goṭhi* of the Sanchi and Bhaṭṭiprolu inscriptions meaning thereby a committee of trustees in charge of a temple[4] or of charitable institutions. "At Barāṇasi free education and board were voted by the town to penniless lads" (Jāt. I. 239, 451).

1 Book I, Ch. IV.

2 Sister Nivedita : Civic and National Ideals.

3 The whole procedure is described in detail in its application to the Saṃgha in Cv. IV. 9, 10, 14.

4 The communal tradition of public worship of gods expenses being met by local subscriptions survive today. Of course the holy ground of the temple was not open to the pariah.

We find a market town where a great deal of rice was distributed by ticket and special meals were given (eko nigamagāmo tattha bahūni salākabhatta pakkhika bhattāni atthi, Jāt. II. 209). Service of humanity was placed in the fore-front of the municipal programme. Charitable dispensaries and hospitals meant for the poor and the helpless are observed and described in detail by Fa-hien in several cities of the eastern countries.

Aldermen ; administration of public funds :

This and other aspects of corporate activity and the growth of the corporation as a legal body are hinted at in a Jātaka verse and lucidly explained in the commentary. Although this comes with reference to the *pūga*, a corporate body which cannot be strictly identified with town corporation, it can be taken as fairly indicative of the functions of the latter since the *pūga* was not exactly a craft-guild and represents a synthesis of larger interests as happened to exist side by side in towns.[1] Those who raise a loan on behalf of the corporation and under false pretences misappropriate the money appear in hell in a fiery pit.

Ye keci pūgāyatanassa hetu
sakkhiṃ karitvā iṇaṃ jāpayanti, IV. 108

Commentary:—Okāse sati dānam vā dassāma pūjaṃ vā pavattessāma vihāraṃ vā karissāma saṃkaḍḍhitvā ṭhapitassa pūgasantakassa dhanassa hetu, Jāpayantīti taṃ dhanaṃ yathāruciṃ khāditvā gaṇa-jeṭṭhakānaṃ lañcam datvā asukaṭṭhāne ettakaṃ vayakaraṇaṃ gataṃ asukaṭṭhāne amhehi ettakaṃ dinnan ti kuṭasakkhiṃ datvā taṃ iṇaṃ jāpayanti vināsenti.

1 See *infra*, Ch. V.

Thus the *pūga* can raise money for charity, for public worship or to raise a monastery. The aldermen who were in charge of these funds had to give accounts of expenditure under different heads. If these people were purchased by bribe and public money misappropriated under false pretences perdition was in store for the offender. The lawgivers were aware of this abuse. "Whatever loan," says Kātyāyana, "raised for public purposes is consumed or employed for one's self should be restored by him."

Gaṇamuddiśya yat kiñcit kṛtyarṇaṃ bhakṣitaṃ bhavet
ātmārthaṃ viniyuktaṃ vā deyaṃ taireva tad bhavet
(*Cf.* Viṣ. V. 167 ; Yāj. II. 187).

About the aldermen or members of a town corportation (*negamā*) the Bhaṭṭiprolu Inscription (No. 8) enumerates twenty-one even giving their names.[1]

Municipal administration of Pāṭaliputra :

They obviously have their counterpart in the *grāma-vṛddhas* of the Arthaśāstra. But the Bhaṭṭiprolu Inscription certainly points to a fuller municipal life in the town than in the village. And this is corroborated with additional data by Megasthenes' account about Pāṭaliputra. "Those who have charge of the city are divided into six bodies of five each." The first looks after everything relating to industrial arts, the second to care of foreigners, the third to registration of births and deaths, the fourth to control of trade, the fifth to sale and auction and the sixth to collection of tithe. Collectively they attend to matters of "general interest, as the keeping of public buildings in proper repair, the regulation of prices, the care of markets, harbours and temples" (Str. XV. i. 51). The picture of course appears to be one of

1 E. I., II. 25.

complete official control and not of a self-governing body. But the executive machinery with departmental divisions and standing committees in charge of each and with its collective functions was presumably evolved from pre-imperial days and was a general characteristic of big metropolitan cities described in the preceding chapter.

Bureaucratic and democratic control :

It may also be presumed that whenever the imperial control was withdrawn, the same machinery was continued under democratic direction. The later Smṛtis lay down high qualification, *viz.*, good lineage, knowledge of the Vedas, self-control, administrative acumen, purity of body and mind and freedom from avarice for the executive officers of the assembly who are called *samūhahitavādinaḥ* and *kāryacintakāḥ* (Vṛ, XVII. 9 ; Yāj. II. 191). The power of appointing and of punishing them was exercised by the municipal body (Vṛ. XVII. 17-20). When not under the direct authority of a strong king, the autonomous or semi-independent municipality developed a police and military force of its own to defend itself against attacks either from within or from without, *i.e*, from robbers and rogues who must be repelled by all (Vṛ. XVII. 5f. ; *cf.* Nār. III. 4, X. 5). Sometimes it became powerful enough to take the offensive, make marauding expeditions and harass kings (Vṛ. XIV. 31f. ; Arth. V. 3).

Municipal functions :

Archæological evidence affords a glimpse into the other functions of the municipal body. At Nasik, under Scythian rule, the terms of a royal endowment or of a private endowment with investment in a guild bank were publicly announced (srāvita) in the town-hall (nigamasabhā) and then duly registered (nibaddha) (Nasik Cave In. 12, v ; 15. viii).

The corporations had their seals and sometimes issued coins in their name. Marshall discovered a seal-die of terracotta at Bhita near Allahabad with the legend 'Śāhijitiye nigamaśa' assigned to the 3rd or 4th century B.C. on palaeographic grounds at the foundation of a house which he thinks to have been the office of the *nigama*.[1] Four sealings bearing the legend '*nigama*' or '*nigamaśa*' in Kuṣāna characters have also been found there and a fifth with the legend '*nigamasya*' in northern Gupta characters. Similar seals have been discovered at Basarh (Vaiśālī) belonging to the time of Gupta emperors. Four coins have been discovered at Taxila bearing the legend '*negamā*' in the reverse and a certain name in the obverse, presumably of their royal or popular heads. The characters are Brāhmī and Brāhmī-Kharoṣṭhī pointing to not later than the 3rd century B.C..[2] It may be noted here that the Visuddhimagga says that some *naigamas* and *gāmas* could issue money (XIV).[3]

The Basarh seals throw light on municipal development in a later age. Members and leading functionaries of the body are referred to. The towns were ruled over by powerful economic interests like *śreṣṭhi*, *sārthavāha* and *kulika* who appear with their names in the seals. They appear with ruling powers over the *viṣaya* in the Damodarpur Copper Plate inscriptions. With their growing economic importance, craft-guilds and trade-guilds settled in the *nigamas* under the Gupta Empire took control of town administration.[4]

1 Annual Report of Archæological Survey, 1911-12, p. 47.

2 Cunningham : Coins of Ancient India, p. 69 and Pl. III.

3 D. R. Bhandarkar : Carmichael Lectures, 1918, p. 176.

4 Many scholars understand *nigama* of these seals and coins to be guilds and not corporations. D. R. Bhandarkar finds no authority for this (*op. cit.*, pp. 170 ff.), R. C. Majumdar makes a compromise and concludes : "There were powerful guild-organisations with ruling autho-

Public works and civic amenities:

Thus in its constitution and function the municipality appears with a complexion strikingly modern. As noted in the previous chapter, the radical reconstructions which towns had often to undergo presuppose a rigid municipal authority on property-owners to which the Improvement Trusts of the present day are hardly a parallel. The Śukranīti even denies private ownership in towns providing only for allotment of plots during one's life. The books of Nārada, Bṛhaspati and Yājñavalkya recognise the legal idea of corporate person with powers of standing in a law-court, owning property, contracting loan, etc. In public works and civic amenities, ancient towns even compare favourably with modern towns. Among public places, the Śāntiparva enumerates a market, a field for athletics, a hall of the nobility, a pleasure garden, a garden, the assembly of officials and the council (69). To these may be added the public rest-house with the attached tank. There was the town-hall—the *sabhā* or *nagaramandira* or the more primitive council tree at the crossroad. Parks and gardens were sometimes laid out on the banks of pure water reservoirs in which aquatic plants were reared to enhance the charm. These were fitted with shades, baths, bowers, cradles and pedestals. There were public wells and water-sheds (prapā)

rity in various cities of India during the Gupta period." Corporate Life, p. 45. So far as the *gāma* of the Visuddhimagga is concerned, we shall see in Ch. V, that in an industrial village, the guild and the corporation were the same body. The same identity should occur in many *nigamas* which very often were only the *gāma* in an expanded form mustering several organised industries instead of one; and a *pūga* or composite guild being a federation of several organised industries is hardly different from a *nigama*. For more and later instances of mercantile interests being the civic authority, see E. I., I. 20; XIV. 14.

at the junction of roads. There were triangles and squares on the cross-section of roads. Every ward or municipal division was endowed with these civic amenities to relieve congestion, provide recreation and ensure air and light. The numerous city descriptions in Indian literature revel in glorifying these in detail. The very climatic conditions of the tropical country fostered outdoor life and civic spirit under clear air and cloudless skies.

CHAPTER III

INDUSTRIAL PRODUCTS: SPECIALISATION OF ARTS AND CRAFTS

India an industrial country. Industries in towns and villages. Dionysius. Factors in specialisation.

Mining and minerals. Mineralogy. Metal-workers. The Blacksmith, his art. The Goldsmith, his art. Fees for metal-workers.

Animals and animal produce. Industries from animal produce. Ivory work. Fisheries.

Perfumery ; sandal. Textile industries. Textile luxuries. Toilets and other luxuries. Miscellaneous crafts. Specialisation and division of labour.

House-building—the carpenter, his craft ; the architect ; the stone-cutter ; the painter.

The washerman and dyer. Other industries. Adaptability of Indian craftsmen. The Municipal market. State and municipal control.

Mechanisation of industries. Mechanical devices and power.

Agricultural country ?

The long-standing western notion that India has all along been primarily an agricultural country was dispelled many years ago by the scholarly thesis of R. C. Dutt. It is now well-known that India was the home of arts and crafts, that her specialised industries found an appreciative market throughout the known ranges of the globe, that she was rich in raw materials for industrial production and that many of her finished goods would compare favourably with her modern compeers in aesthetic value.

Industries, urban and rural :

No doubt, the towns favoured the concentration and perfection of the industrial arts. But these had an almost

equally important role in the economy of the village and of the country. Literally, every house was a centre of some small industry. And side by side with the agriculturist innumerable industrial professions cropped up in the countryside to cater to the needs of the people and add to the total productive wealth of the land.

Dionysius, the poet of "The Description of the Whole World," supposed to belong to the 3rd century A. D., gives a brief and beautiful glimpse into Indian industries from a long-range perspective. "They (the Indians on the other side of the Indus) are variously occupied—some by mining seek for the matrix of gold, digging the soil with well-curved pickaxes; others ply the loom to weave textures of linen ; others saw the tusks of elephants and varnish them to the brightness of silver ; and others along the courses of mountain torrents search for precious stones—the green beryl, or the sparkling diamond, or the pale green translucent jasper, or the yellow stone or the pure topaz, or the sweet amethyst which with a milder glow imitate the hue of purple."

Factors in specialisation :

The specialisation of arts and crafts was promoted by several factors. The first is the knowledge and use of raw materials and the discovery of tools. As elsewhere, Indian artisans made progress through trial and error and brought nature increasingly under control of technical device. The second is the guild organisation with its plan of perpetuating skill through the practices of heredity and apprenticeship. The father handed down his skill and experience to his son and a new entrant into the guild (antevasi) had to go through a course of training under the guidance of a master (acario) before he qualified himself for the profession. The third is the expansion of the market. With the improvement of

communication and transport and the conquest of distance trade flowed more freely across political and maritime barriers and the artisan had to face increasing competition and had a greater incentive to improve. Lastly, there is the protection and patronage of the state. The state used to encourage industry and trade by providing police against robbers and pirates and by grant of liberal subsidies and loans. This was as much in the interest of the treasury as in the interest of the producer, because the growth of arts and crafts means a rise in the revenue or *śulka* derived from industrial profit.

Mining and metals :

India had abundant mineral resources and her people knew full well to exploit the mines. In the words of Diodorus, she "has also under ground numerous veins of all sorts of metals, for it contains much gold and silver, copper and iron in no small quantity, and even tin and other metals which are employed in making articles of use and ornament, as well as the implements and accoutrements of war" (II. 36). Strabo, although he dismisses as a fable the story told by Timagenes that showers fall of drops of copper which are swept together, cites the more credible statement of Megasthenes "since the same is the case in Iberia, that rivers carry down gold dust and that a part of this is paid by way of tribute to the king" (XV. i. 57). Similarly on the testimony of Gorgos, the miner, he believes in the existence of gold and silver mines in mountains but is misled to state that "the Indians being unacquainted with mining and the smelting of ores[1] do not know their own wealth, and therefore traffic with greater simplicity" (30). In a Jātaka verse, a list of minerals includes iron (ayo),

1 This is distinctly referred to as early as in the Ṛg-Veda, V. 9. 5; VI, 3. 4.

copper (lohaṃ), tin (tipu), lead (sīsaṃ), silver (rajataṃ) and gold (jātarūpan) (*cf.* Dn. XXIII. 29). The Arthaśāstra list of metals gives iron (kālāyasa), copper (tāmra), ? (vṛtta), bronze (kāṃsya), lead (sīsa), tin (trapu), mercury (vaikṛntaka) and brass (ārakūṭa). The Jātaka stories also testify that the mines, mostly under state monopoly, were worked by convict labour (*cf.* Arth. IV. 8).

Mineralogy :

The Arthaśāstra, in the chapter on Ākarakarmāntapravartanam, evinces a great development in the science of mineralogy (sulbadhātuśāstra). Mines were discovered and exploited in plains and in mountain slopes. Large varieties of alloys, processes for smelting metals from ores, the chemical test of metallic substances on acid and alkaline matter are all treated in detail. That these were the acquisition of an earlier age than that of the author of the Arthaśāstra is evident from the simile in the Jātaka verse—"like verdigris removed by acid," —*ambilena paharitvā tambamalam* (III. 344) ; *ambiladhotaṃ viya tambamalam* (V. 95).[1] The work of the blacksmith with his blowing and heating is described by Buddha in a parable. "When master Kassapa, that ball of iron, with its lambent and gaseous concomitants, is burning and glowing with heat then it is lighter, softer, more plastic, but when, without those lambent and gaseous concomitants, it is cool and quenched, it is then heavier, more rigid, less plastic" (Dn. XXIII. 17).

Smith :

After the knowledge of metals and of their properties was acquired, the smith's trade was divided and specialised on

1 *Cf.* Buddhaghosa's note on 'khura-sipāṭikaṃ,' *i.e.*, powder prepared with *sipāṭika* gum to prevent razors from rusting, Cv. V. 27. 4.

the basis of different metals. In a Milinda list of crafts in a town we have reference to workers in gold, silver, lead, tin, copper, brass and iron separately (suvaṇṇakāra, sajjhakāra, sīsakāra, tipukāra, lohakāra, vattakāra, ayakāra). By far the commonest and most important in the village economy were the blacksmiths, the workers in iron and steel. They, were generally grouped in exclusive settlements of their own,[1] and people came from the neighbouring villages to have razors, axes, ploughshares and goads made (vāsi-pharasu-phāla-pācanādi, Jāt. III. 281 ff.). A more elaborate list of their handicrafts gives razor, axe, spade, auger, hammer, instrument for cutting bamboos, iron weapon, grass-cutter, sword, iron staff, peg and three-pronged iron fork (vāsi-pharasu-kuddāla-nikhādana- muṭṭhika - veḷugumbhacchedana-satthi-tiṇalāyana-asi-lohadaṇḍa-khanuka - ayasiṃghāṭaka, V. 45).

Workmanship:

It is difficult from this distance of time to assess their workmanship at its true value. In the Jātaka story just referred to (III. 281 ff.), we are told about the exploits of a youthful prodigy. He "took iron of the best kind and made one delicate, strong needle which pierced dice and floated on water: then he made a sheath for it of the same kind and pierced dice with it." Seven such sheaths were made enclosing one upon another, even the last capable of being mistaken as the needle. The strength of the needle is demonstrated by piercing an anvil with it and letting it float on water. We do not know what allowance is to be made for the Bodhisatta

1 There is also the itinerant smith who carries his furnace wherever he is called to go—*kammārāṇaṃ yathā ukkā anto jhāyati no bahi*, Jāt. VI. 189.

factor. The human element is left in the lurch by the pedagogic conclusion of the story : "How he made them is not to be told, for such work prospers through the greatness of Bodhisatta's knowledge."

There are other evidences of the high excellence of the blacksmith's art which stand on more solid ground. For, it must be remembered that he not only supplied tools to the cultivator, the gardener, the carpenter, the wood-cutter and the grass-mower, he also armed the military. It was on him that the king depended for victory in war. Megasthenes notices this twofold function of the smith (Diod. II. 41) and the protection given to this class by the Maurya state. They received subsidy from the royal exchequer and were exempted from paying taxes. Causing injury to their eye or hand (which disabled them to pursue their craft) meant death for the offender. The sedulous cultivation of the art of killing and of its implements led to the unique metallurgical development as reflected in the chapter on the Superintendent of Armouries in the Arthaśāstra (II. 18), and in the great battle episodes of the Mahābhārata.

The goldsmith:

The goldsmith seems to have settled in the town where he could cater to the demands of fashion and luxury of the richer folk and he is not found settled in exclusive villages like the blacksmith in the *kammāragāma* (Jāt. V. 424 com. ; Dn. II. 88. ; Mil. 331 ; Rām. II. 83. 15 ; Mathura In. E. I. II. 14). His was a highly specialised art. The author of the Arthaśāstra contemplates a separate superintendent over the craft, treats gold and silver separately from other metals and deals with various fineries like ornamental work, setting jewels, thread-making, etc. (II. 12f.). The skilled smith executes an exquisite gold image to the order of a king (Jāt.

V. 282). He is seen refining gold from the bed of river Jambu in a crucible, working it to a brilliant polish so that, laid on a yellow cloth, it diffuses its sparkling radiance around (nekkhaṃ jambonadaṃ dakkhakammāraputta ukkāmukhe sukusalasampahaṭṭham paṇḍukambale nikkhittaṃ bhāsati ca tapati ca virocati ca, Mn. III. 102 ; An. I. 181). The silversmith, blowing off the filth from his metal, is also a common figure (Sut. 962 ; Dhp. V. 239). Much of jewellery has survived and is amply represented in the bas-reliefs of temples and *stupas* to show the shape and size of ornaments (*cf.* Rām. I. 16 ; II. 9 ; III. 49, 51, 52, 54).

Fees for metal working :

The Arthaśāstra specifies the fees for metal-workers. They were required to manufacture gold and silver coins. 1 *māṣa*[1] is the fee for the manufacture of a silver *dharaṇa*, 1/8 portion for manufacture of a *suvarṇa*. Fees rise according to the skill of the worker. Fees shall be 5 p.c. or 1/20 for manufacture of articles from copper, brass, *vaikṛntaka* and *ārakūṭa*. 1 and 2 *kākaṇi*s are fees for manufacturing an article of a *pala* in weight of lead and iron respectively (IV. 1. Munich MS.).[2]

1 Of silver. This means 1/16 of value, 1 *dharaṇa* being 16 *māṣa*s in weight.

2 The Śukranīti assigns the goldsmith 1/30, 1/60 or 1/120, according as the workmanship is excellent, mediocre or inferior ; 1/240 in the case of a bracelet (*kataka*) and 1/480 for mere melting. The grades of the silversmith are ½, ¼, ⅛ according to quality of work and 1/16 in the case of a bracelet. The fee is ¼ for copper, zinc and *jasada* metal; ½, 1, 2, or 8 times in case of iron (IV. 653-59). Thus Śukra's law is more equitable giving more weight to workmanship and less to the value of the metal worked upon.

Animal produce:

The hills and forests of India were rich in animal resources sufficient to draw the attention of Megasthenes and to provide materials for a complete treatise by Aelian. In the forests held under its monopoly, the state had a lucrative income from these products. In the primeval forests which were no man's property, the hunter and fowler plied their trade selling flesh for eating to the townsfolk or the hide, claws, teeth and fat when he happened to bag a lion (Jāt. I. 387; III. 152). According to the Arthaśāstra, the skin (carma), bone (asthi), bile (pitta), gut (snāyu), tooth (danta), horn (śṛnga), hoof (khura) and tail (puccha) are useful commodities derived from the lizard, the *seraka* (?), the leopard '(dwīpī), the porpoise (suṃsumāra), the lion, the tiger, the elephant, the buffalo, the yak (camara), the rhinoceros (?) (sṛmara-kharhga) and the gayal (gavaya) as well as from other animals, birds and reptiles (II. 17, 29).

Industries:

The skin disposed of by the hunter went to the tanner and cobbler and fed their industry. The wool and the feather, after the necessary processes of carding and cleaning, were used by the skilled weaver for the production of warm clothing. But the more important trade flourishing upon animal produce was that of the ivory-carver. He could carve out any shape out of ivory as the potter out of clay or the goldsmith out of gold (Dn. II. 88). The material yielded to diverse forms and shapes as for example bangles and trinkets (valayādīni, Jāt. I. 320f, II. 197), and "a living elephant's tusk was worth a great deal more than a dead one's" (Jāt. I. 320f; *cf.* Arth. II. 2). In the Atthasālinī these artisans are sketched as "tightly swathed in one garment, their heads covered with another, their limbs besprinkled with ivory dust,

making various forms out of ivory," so that a king riding his elephant in state "being pleased with their skill, might say, 'how clever are these masters who can do such things' " and even wish he might be one of them (135).

Pearl-fishery:

Fishing was probably confined to the rivers and lakes and the depths of the sea seem not to have been explored by the northerners to a very appreciable extent. A casual simile in the Jātakas of course refers to the throwing of a net in the sea (samuddamatthake jālam khipanto viya, III. 345) ; but in the Jātakas a river is often indiscriminately spoken of as a *samudda* (I. 227 ff ; IV. 167 f.; VI. 158). In the Śāntiparva, going into the depth of the ocean is among the *vārttās* (samudram vā viśantyanye, 167. 33). The treasures (ratana) beneath the ocean are enumerated as *muktā* (pearl), *maṇi* (crystal), *veḷuriya* (beryl), *saṃkha* (shell), *silā* (quartz), *pavāla* (coral), *rajata* (silver), *jātarūpa* (gold), *lohitanka* (ruby) and *masāragalla* (cat's eye) (An. IV. 199). Pearl-fishery was a flourishing industry in Ceylon and in the Tamil countries. Writing about it, Pliny says that like bees swarms of oysters were led by clever and flitting ones. If they are netted, others are easily caught. "They are then put into earthen pots where they are buried deep in salt. By this process the flesh is all eaten away, and the hard concretions, which are the pearls, drop down to the bottom" (IX. 55). The tortoise shell which figures in the Periplus (17) as an important export from India may be a southern product and so also the beaded pearls of Sītā's head tiara which are claimed to have been raised from the sea (bārisambhavaḥ, Rām. V. 40. 8).

Perfumery:

Perfumery was a highly specialised art (Jāt. VI. 335). The commonest perfume was sandal. The wood was rubbed

into a paste, or oil was extracted out of it which was used along with aloe (akalu) as toilet (II. 181 ; III. 160, 512 ; V. 156, 302 ; VI. 144). There were several varieties among which *gośīrṣa*, red sandal and that produced in Dardara are enumerated in the Kalpasutra (100 ; *cf.* Arth. II. 11). Flower-scents were extracted and used to perfume crude sesamum oil (Mbh. VII. 279. 14 f; 299. 14). Many other varieties of aromatics were cultivated and gathered which figure prominently in the Periplus and classical writers among the exports of India to the Roman world. Chemical compounds of different scents were also known (sabbasaṃhāraka, Jāt. VI. 336) and the art embraced the knowledge of embalming and preserving dead bodies (Rām. VII. 88. 2-4). Despite the attempt to stigmatise his profession in certain quarters as appropriate to mixed castes (Mbh. XIII. 23. 48) the perfumer's (gandhika) art had a good demand among the rich and fashionable people and consequently commanded respectability (Jāt. VI. 336 ; Rām. II. 83. 12ff ; Mathura In , Karle Cave In.).

Textile industries:

The habits of luxury equally encouraged the textile industries. Megasthenes observes that the main attention of the fashionable grandees was on dress and the medallions and relief sculptures in Barhut, Sanchi, Sarnath and Amaravati amply bear out his observation. The Jaina Ācārāngasutta mentions several varieties of cotton and fur stuff (II. 5. 1. 4f). The Mahāvagga enumerates among textile goods *khomaṃ* (linen), *kappāsikaṃ* (cotton), *koseyyaṃ* (silk), *kambalaṃ* (woollen garments), *sāṇaṃ* (hemp) and *bhangaṃ* (hempen cloth) (I. 30. 4). A further elaboration is made upon these, *viz.*, *sāṇaṃ*, *sāṇasuttam* and *sāṇiyo*, *i. e*, hemp, hempen thread and hempen cloth, *khomaṃ* and *khomasuttaṃ i. e.*, flax and linen thread; *kappāsikadussaṃ* and *kappāsikasuttaṃ*,

i. e., cotton cloth and cotton thread (Dn. XXIII. 29). That spinning and weaving were separate industries is evident from the Milinda (331) and the Rāmāyaṇa (II. 83. 12 ff.) lists of crafts and professions (An. III. 295). The texture of these fabrics was sometimes so fine that the down on the gourd was coarse in comparison (.....cīvarāṇi dhāremi daḷhāni yattha lūkhāni alābulomasāni, Mn. II. 12).

Textile luxuries:

Silk, of course, was the commonest luxury. Carpets were made of the finest fibre cloth (varapothakattharaṇaṃ, Jāt, VI. 280) or with soft variegated squirrel skins (muducittakaḷandaka). Of blankets and woollen stuff there were many varieties, *e.g.*, dyed or embroidered blankets (citrān kambalān, Ram. II. 70. 19) and those spotted with lac dye (IV. 28. 24). In a long list of luxury goods to which the Brāhmaṇas are addicted, have been enumerated the *gonako* (rendered by Rhys Davids as goat's hair coverlets with very long fleece), *cittakā* (patchwork counterpanes of many colours), *patikā* (white blankets), *paṭalikā* (woollen coverlets embroidered with flowers), *tulikā* (quilts stuffed with cotton wool), *vikatikā* (coverlets embroidered with figures of lions, tigers, etc), *uddalomi* (rugs with fur on both sides), *ekantalomi* (rugs with fur on one side), *katthissam* (coverlets embroidered with gems), *koseyyam* (silk coverlets), *kuttakam* (carpets long enough for sixteen dancers), *hatthattharam* (elephant housings), *assattharam* (horse rugs), *rathattharam* (carriage rugs), *ajinappaveṇiṃ*, *kadalimigapavarapaccatthara-ṇam* (panther or antelope skins), *sauttaracchadaṃ ubhatolohitakūpadhānaṃ* (couches covered with canopies or with crimson cushions at both ends) (Dn. I. i. 15 ; *cf.* XVII. ii 5 ; Mv. V. 10. 13).[1] Blankets were made also of human

1 See Sumangalavilāsinī on Brahmajālasutta 9, and the translations of Rhys Davids.

hair (kesakambalam),[1] of horse's tail (vālakambalam)[2] and of feather of owl (ulumapakkham) (Dn. VIII. 14, XXV. 8 ; An. I. 181, 286). Blankets, fibrous garments and cotton fabrics with their specialities and sources of supply figure in the Arthaśāstra as well-known industrial products (II. 11). Megasthenes observed that Indians put on robes worked with gold and precious stones, and flowered garments of the finest muslin (Str. XV. i. 53-56).

Other luxuries:

Among other articles of luxury were "high and large couches," *e.g.*, the *asandi* (moveable settees, high and six feet long)[3] and the *pallanko* (divans with animal figures carved on the supports) (Dn. I. i. 15 ; An. I. 181 ; Mv. V. 10. 3 ; Jāt. I. 108) ; couches of ivory, wood, gold or silver (Sn. III. 146), mirrors, eye-ointments, garlands, rouge, cosmetics, bracelets, necklaces, walking sticks, reed cases for drugs, rapiers, sunshades, embroidered slippers, turbans, diadems, whisks of yak's tail and long-fringed white robes (Dn. I. i. 55 ; An. I. 181). "They wear shoes made of white leather, and these are elaborately trimmed, while the soles are variegated....." (Arrian, 16).

Miscellaneous crafts:

Lac was widely cultivated and a flourishing industry thrived upon it. It was used mainly as a dye and for anoint-

1 See Sumangalavilāsinī *Cf.* Ajito kesakambala. *Cf.* Manu XI. 93.

2 Rhys Davids: Dialogues, p. 231, fn. 3.

3 "It is there (Śat. Br. III. 35. 105) said to be of common sorts of wood and perforated; which probably means that the frame was of wood and the seat was of interlaced cane or wickerwork," *Ibid.*, p. 11, fn. 4.

ing the feet of women (Therag. 459). Apiary or bee-culture was well-known (Arth. II. 15 ; Rām. V. 61-63). The classical writers also give prominence to a host of edible spices, herbs, medicines, stones, dyes, resinous gums. etc., as peculiar Indian products which had a monopoly of Arabian and Roman markets (*cf.* Mv. VI. 1 ff.).

Specialisation:

How far division of labour and specialisation in industry was achieved is shown by the spliting off of the art of arrow-making from the smithy. A fletcher (usukāra) straightening or bending his arrow is a very common reference (Dhp. 33, 80 ; Mbh. XII. 178, 12). He heats an arrow in a pan of coal, wets it with sour rice-gruel and closing one eye, looks with the other while he makes the arrow straight (usukāro angārakapalle usuṃ tāpetvā kañjikena temetvā ekaṃ akkhiṃ nimīlitvā eken' olokento ujuṃ kāroti, Jāt. VI. 66). From the Milinda list of crafts practised in a town it would appear that the art of arrow-making, while being separate from that of the smith (cundā) was separate even from the manufacture of bows (dhanukāra) and of bow-strings (jiyakāra) apart from any ornamental work thereupon.

The same was the case with carpentry. While the art of the *vaḍḍhaki* covered all woodcraft in general, the *tacchaka* (planer) and the *bhamakāra* (turner) specialised in modes of woodwork (Mv. I. 56, 396 ; Dhp. 80).

The Carpenter ; house-building:

The Pali literature throws much light on the craft of the *vaḍḍhaki*. The Jātakas have an illuminating passage about a settlement off Banaras. "They would go up the river in a vessel, and enter the forest, where they would shape beams and planks for house-building, and put together the framework

one-storey or two-storey houses, numbering all the pieces from the main post onwards ; these then they brought down to the river bank, and put them all aboard ; then rowing downstream again, they would build houses to order as it was required of them ; after which when they received their wage, they went back again for more materials for the building, and in this way they made their livelihood" (II. 18).

Te nāvāya uparisotaṃ gantvā araññe gehasambhāradārūni koṭṭetvā tatth'eva ekabhūmika-dvibhūmikādi-bhede gehe sajjetvā thambhato paṭṭhāya sabbadārūsu saññaṃ katvā nadītiram netvā nāvaṃ āropetvā anusotena nagaraṃ āgantvā ye yādisāni gehāni ākaṃkhanti tesaṃ tādisāni katvā kahāpaṇe gahetvā puna tatth'eva gantvā gehasambhāre āharanti. Evaṃ tesam jīvikaṃ kappentānaṃ.....

The passage gives valuable clues to the condition of the industry. Wood was plenty and it was used on a large scale for house-building.[1] The carpenters who are in this case

1 There is little doubt that during the period of our study timber was largely used for constructions in the Gangetic provinces (Jāt. III. 157, 317; IV. 153, 159; Mv. III. 8). It was used to build the palaces and fortifications of Pāṭaliputra, although the Arthaśāstra disapproves of such use as fire finds a happy abode in wood. Conditions may have been different farther west, for the Milindapañho, composed by a western writer, says that in the eastern districts (puvatthimesu) houses were built of combustible material like thatch and wood and were dangerous in case of fire (pp. 43, 47, 224), indicating thereby that the western countries used other and non-combustible materials. In this respect the distinction between towns and villages should be noted. The village huts were built chiefly with wattle (kaṭṭha), withies (valli), grass (tiṇa) and clay (mattika) (Mn. I. 190, Mil. 43; Mbh. XII. 261. 7) but the application of brick, stone and cement along with wood is testified to (Cv. V. 11. 6; 14. 3; 16. 2; 17. 2; VI. 3. 3f., 10; 17. 1). Arrian draws the distinction that cities on river banks or sea-coasts "being meant to last

a corporation of building contractors resided in proximity to the sources of their raw-materials, *i.e.*, to forests. At the same time they must be within easy reach of the town where they have to receive and execute orders; and the river afforded the most convenient facility for transport. Accordingly, the settlement was made on a river bank, midway between a town and a forest. They brought wood from the forest, worked the pieces at home, and carrying them down-stream fitted them in the place required.

His craft :

Besides houses the carpenters took contracts for bedstead (mañcam), chair (pīṭham), etc., *i.e.*, furnitures in general (Jāt. IV. 159). A Brāhmaṇa carpenter 'gained his livelihood by bringing wood from the forest and making carts' (IV. 207). Chariot-making and ship-building came within the purview of his trade and called for considerable skill in wood-craft. He is seen plying his trade with hatchet, adze, chisel and mallet (vāsipharasūnikhādanamuggare) and the measuring line (kālasutta, Jāt. II.405; IV. 344) which he draws out at length or winds up short (Dn. XXII. 2) or which he puts round a log of wood with black dust to guide his saw (tacchako kālasuttaṃ anulometvā rukkhaṃ tacchati, Mil. 413). He bends a log of wood (dārun namayanti tacchakā, Dhp. 145) and discarding soft parts of the wood takes the hard parts" (pheggum apaharitvā sāram ādiyati, Mil. 413) as obviously in the case of ebony of which the outside is soft and inside hard,

for a time" mainly consisted of woodworks, while those on "commanding situations" were built of brick and mud. The reminiscence of the former practice survives now in Burma which is still rich in forests and timber.

The architect :

The carpenter was not the only agency engaged in house-building. The building of a king's palace was the venue of as many as eighteen manual arts (Jāt. VI. 427). Among them the foremost place was that of the architect[1] who is skilled in divining good sites (vatthuvijjācariyo, II. 297, IV. 324) and who is sometimes "endued with great intelligence and well-versed in the knowledge of laying foundations, a *sūta* by caste, well-acquainted with the Purāṇas,"—

> sthapati*r* buddhisampanno vāstuvidyāviśāradaḥ
> ityabrabīt sūtradhāraḥ sūtaḥ paurāṇikastadā
> —Mbh, I. 51. 15.

The stone-cutter :

The stone-cutter was his partner (pāsāṇakoṭṭaka), an expert in quarrying and shaping stone (pāsāṇe uppāṭetvā koṭṭeti) and capable of hollowing a cavity in a crystal (Jāt. I. 478 f). Innumerable archeological finds testify to the growth of his craft. He made flights of steps leading up into a house and laid foundation for the woodwork which made the upper part. He carved pillars and bas reliefs. He faced a tank with stone-lining and equipped it with steps and balustrade (Cv. V. 17. 2; Rudradāman's Junagadh Rock In.). And he did finer work such as making a crystal bowl or a stone coffer, excellent specimens of which have been discovered in the Sanchi tope, and chiselling exquisite works of sculpture on topes and temples.

The painter :

To the work of the architect, carpenter and stone-cutter, the painter (cittakāra) gave the finishing touch. The clay and

1 For the workmanship of the civic architect see *supra* Ch. I.

woodwork of houses were covered with fine plaster of lime (cūnam) on which the painter painted frescoes (Cv, VI. 17. 1; Sum. 42, 84, Vin. II. 151; IV. 47, 61, 298; Mil. 331). The chisel and the brush had a free berth in frescoes and mural decorations and accordingly they are treated in the Śilpaśāstras in subsidiary sections of the Sthāpatyaveda. But unlike the sculptor's art the painter's was not the handmaid of architecture. Painting flourished as a finished and independent art. A passing reference in the Mṛcchakaṭikā, Act I, gives a glimpse of the painter at work. "I who used to sit in the inner courtyard and was fed on highly favoured sweets..... with a hundred pans around me, like a painter surrounded with paint-pans, from each of which I touched a bit and pushed back.....". About the working in his mind behind the outer operations, the Atthasālinī speaks in greater detail, "In painting, the painter's masterpiece (caraṇa)[1] is more artistic than the rest of the pictures. An artistic design occurs to the painter of masterpieces—that such and such pictures should be drawn in such and such a way. Through this artistic design there arise operations of the mind (or artistic operation) accomplishing such things as sketching the outline, putting on the paint, touching up and embellishing. Then in the picture known as the masterpiece is effected a certain central artistic figure. Then the remaining portion of the picture is completed by the work of planning in mind as, 'above this figure let this be; underneath, this; on both sides, this'. Thus all classes of arts in this world specific or generic are achieved by the mind. And owing to its capacity thus to produce a variety or diversity of effects in action, the mind, which achieves all these arts is itself artistic like the arts

1 Vicaraṇacittam,—com. Sn. III. 151. A show-piece selected for exhibition by an itinerant artist.

themselves. Nay, it is even more artistic than the art itself, because the latter cannot execute every design perfectly. For that reason the Blessed One has said 'Bhikkhus, have you seen a masterpiece of painting ?' 'Yea Lord.' 'Bhikkhus, that masterpiece of art is designed by the mind. Indeed, Bhikkhus, the mind is even more artistic than that masterpiece.'"[1]

The washerman or dyer :

The dyer and washerman (rajaka) were probably the same person but different from the dye-manufacturer (rangakāra, Mil. 331; Dn. II. 14; Mn. I. 385; Rām. II. 83. 15; Manu, IV. 216). He knew how to remove the dirt of a cloth without destroying the dye (Mbh. XIII. 91. 2). He gave the dye of blue, yellow, red or saffron (manjeṭṭha) to a piece of cloth after cleansing it properly (Mn. I. 36; An. III. 230). Regarding his terms of business, the Arthaśāstra lays down that he shall be fined 12 *paṇa*s for selling, mortgaging and letting out others' clothes for hire. Clothes merely to be cleaned are to be returned within 1 to 4 nights, clothes which are to be given thin colouring (tanurāgaṃ) 5 nights ; those which are to be made blue 6 nights; those which are to be made as red as flower, lac or saffron or those which require much skill and care 7 nights (puṣpa-lākṣā-mañjiṣṭhā-raktaṃ gurupari-karma-yatnopacāryaṃ jātyaṃ vāsaḥ saptarātrikaṃ). Otherwise charges will be forfeited (IV. I. Munich MS.).

Other industries :

Among other specialised crafts were those of the florist or garland-maker (mālākāra, Dn. II. 14 ; Mn. I. 387 ; Jāt. III. 405; Mil. 331), of the manufacturer of sugar and sugar-candy

1 *Cf.* Sn. III. 151.

(Str. XV. i. 37), of the oil-presser (tailika, tilapisaka, Manu. IV. 84 f; Mbh. XII. 174. 25, XIII. 90 ; Nasik Cave In. 15. vii), of the salt-maker (loṇakāra, Mn. III. 154; Jāt. III. 489), of the curry-maker and provision-vendor (odanika, III, 49 ; āḷārikā sūdā, Mil. 331 ; bhojanadātṛ, Arth. IV. 8) making a luscious display of his stuff (nānāggarasānaṃ dibbabhojanānaṃ bhājanāni pūretvā odanikāpaṇaṃ pasāretvā, Jāt. I. 397), and of the tailor (tunnavāya, Jāt. VI. 336 ; Mil. 331) who used a thimble or finger-protector (paṭiggaho) when sewing (Cv. V. 11. 5). Among the poorer crafts were those of the wood-cutter (kaṭṭhahārakā, Mil. 331; Str. XV. i. 50) and the grass-cutter (tiṇahāraka, Mil. p. 331) who works with sickle (asitaṃ), ties the bundles with a rope (tiṇabandhanarajjum) to a pole (kājan) and sells them in the city (Jāt. III. 129). Thera Kappaṭakura who in his young days supported himself going about clad in rags, pan in hand, seeking for rice grains (kura), when grown up maintained himself by selling grass which he reaped in the forest (Paramatthadīpanī on Psalms 199 ff.).

Adaptability of craftsmen :

Strabo speaks disparagingly not only about the mining activities of the Indians, but also about their industrial propensities in general. "They do not pursue accurate knowledge in any line, except that of medicine; in the case of some arts, it is even accounted vicious to carry their study far, the art of war, for instance." Presumably his authority derived the information from the priestly denunciation of all manual pursuits. For elsewhere he himself quotes Nearchus speaking of the remarkable adaptability of native craftsmen. They saw sponges used by the Macedonians for the first time and immediately manufactured imitations of them with fine thread and wool dying them with the same colour. They quickly picked up other Greek articles such as scrapers and oil-flasks used

by athletes. For writing letters they used species of fine closely woven tissue. A study of the plastic arts amply bears out that the Indians had their own designs and ideals, but these did not stand in their way of quickly mastering foreign ideas that commended.

The city bazar :

Among urban crafts the Milinda and the Rāmāyaṇa lists include jewellers (maṇikārā), ropemakers (rajjukārā), comb-makers (kocchakārā), arms-makers (śastropajīvinaḥ), makers of fancy-fans from peacock feathers (māyurakāḥ), those living on *karkacas* (krākacikāḥ), borers of pearls, etc. (vedhakāḥ), *rocakāh* (?) and nectar-makers (sudhākārāh) (*cf.* Rām. III. 90). Brewery and distillery, pottery, wicker-work and leather-work[1] complete the general picture of industrial economy. The town bazar presenting an imposing array of flower shop (pupphāpaṇaṃ), perfumery (gandhāpaṇaṃ), fruit shop (phalāpaṇaṃ), pharmacy of antidotes (agadāpaṇaṃ), medical stores (osadhāpaṇaṃ), stores of ambrosia (amatāpaṇaṃ) jewellery (ratanāpaṇaṃ) and stores of all other sundry merchandise (sabbāpaṇaṃ) (Mil. 332) was the general sight in all cities and not in the Indus Valley alone. In the Maurya state it was necessary to employ civil officers to superintend the occupations of artisans like wood-cutters, carpenters, blacksmiths and miners. Of the six bodies of the municipal board of Pāṭaliputra, the very first "look after everything relating to the industrial arts" (Str. XV. i. 50). Competition, unfair dealings, deceitful practices against customers, smuggling and cornering, evasion of state revenues and municipal tithes, all these evils of a thriving industrial life demanded interference of the state as far as it could extend its hand.

1 These industries are treated in more detail in Bk. V, Ch. III and Bk. VI, Ch. IV.

The Arthaśāstra, the great exponent of regulated economy makes a clean sweep of *laissez-faire* practices and seeks to inaugurate a rigorous state control to which even Friedrich List offers no parallel.

Mechanisation :

How far Industry was mechanised is a difficult problem for study. There is little evidence of the use of power like those of air, water or electricity, if the stories of flying vehicles and miraculous arms in the Epics are dismissed as legendary. It cannot be ascertained what sort of engine (yantra) was fitted in the boat which Vidura built to help the Pāṇḍavas escape from the lac house (Mbh. I. 143. 5). Nor can the mythical element be sifted out from the feats of a Bodhisatta mechanic who builds a house with "eighty great doors and sixty-four small doors which all by the pressure of one peg closed, and by the pressure of one peg opened"; and with "some hundreds of lamp-cells also fitted with machinery, so that when one was opened all opened—and when one was shut all were shut" (Jāt. VI. 432). But there is little doubt about considerable progress in mechanical devices, applied to various industries, as for example, evinced in the chapter on Armoury Superintendent in the Arthaśāstra (II. 18). The commentaries on the art of mechanical engineering (mahā-yantrapravartana) in Manu (XI. 64)[1] are informative in this respect. They go severally as "constructing dams across

1 This craft and the superintendence of mines and factories are branded low. It seems that mechanisation and heavy industries were deprecated by the orthodox and priestly class then as now. A *snātaka* is not to accept present from an oil-presser and an oil-press is as bad as ten slaughter-houses (Manu, IV. 84 f.). Of course, very few handicrafts were exempt from stigma. See *infra*, Bk. VI. Ch. IV.

rivers in order to stop the water" (Medh., Gov. and Kull.), "Making machines for killing great animals such as boars" (Nār.) or "making great machines such as sugar-mills" (Nandana).

Application of machines:

From these explanatory notes and copious other evidences it appears that mechanical contrivances were called for the great irrigation projects undertaken to combat flood and drought, for armaments and techniques of warfare and for machines like the sugarcane-presser (Jāt. I. 339, II. 240)[1] the oil-presser (Mbh. XII. 174. 25; Manu IV. 84 f), the water-pump or hydraulic engine (odayantra, Nasik Cave In. 15. vii) and the loom with its shuttle and wheel and spokes (Cv. V. 28. 2; Mbh. 1. 3. 144). The devices of a double water-strainer and fitter (Com. on 'daṇḍaparissāvanaṃ' and 'ottharakam,' Cv. V. 13.3) and of a swing door with poles turning about on a socket (V. 14. 3; VI. 3. 7) were common things. The fictions of Nala bridging the sea between the Cape and Ceylon and of Maya raising a picturesque town on the site of a forest connot be altogether divested of reality. The great monoliths of the Maurya epoch estimated at about 50 tons each and their transport and erection at such distant places as Topra near Umbala, Sanchi in Bhopal and the Nepalese Terai are no mean engineering feats. If the lion capital of Sarnath is a testimony to Maurya craftsmanship these are standing monuments of mechanical development.

1 It may be noted that the Indians knew the preparation of sugar-candy which was foreign to the Greeks and appeared like "stones dug up which are of the colour of frankincense and sweeter than fig or honey" (Str. XV. i. 37).

CHAPTER IV

INDUSTRIAL GEOGRAPHY

Geographical distribution of industries.

Animals. Horse—northwest. Elephant, ivory—east. Skins—north, northwest.

Food crops. Herbs, roots and gums; malabathrum, spikenard, nard, costus, lycium, bdellium. Aromatics; sandal, aloe.

Dyes. Grape wine—Afghanistan.

Minerals. Gold—three varieties, ant-gold; Tibetan mines. Other centres. Silver. Copper. Other metals. Rock salt—Ormenus Range. Diamond. Precious stones—south.

Pearl-fishery—south. Sea-fishing—south.

Textile industry—Banaras, Bengal, other centres. Cotton. Wool. Silk.

Tabulated list of industries and sources of supply.

Many of the natural and industrial products described in the preceding chapter were scattered over all parts of the country. But some were specialities of particular localities from where they were distributed to others.

The horse:

The forests and mountains abounded with wild animals and birds. The horse and the elephant were prize animals in great demand with kings and nobles. The best breed of these were not to be found everywhere. Of the former, the Arthaśāstra ascribes the best to Kamboja,[1] Sindhu, Āraṭṭa[2]

1 Stein places it in eastern Afghanistan (Rāj. I. p. 136), some farther north identifying with Pamir Badakshan (Pt. Jaychand Narang Vidyalankar; Bhāratīya Itihāsa kī Rūparekhā, pp. 470 ff). Raychaudhuri, on the basis of Mbh. VII. 4. 5. identifies it with Rājapura or Rajaori (between the Jhelum and the Chenab)—Political History, p. 125 f. The last suggestion is strengthened by the synonymous adjunct *nadīja* and by the reference to *jalaja* or herbs of water for trapping horses.

2 See fn. 2, next page.

and Vanāyu;[1] and the middlings to Bāhlika,[2] Pāpeya,[3] Sauvīra,[4] Taitala,[5] the rest being ordinary (II.30). In the Jātakas and in the Mahābhārata, the Sind variety comes foremost (Jāt. I.178, 181 ; II. 166; III. 338; Dhp. 322; Mbh. VI. 91. 3 f; VII. 43.2) along with the Kāmbojas or those of the river-country (Jāt. IV. 464; Kambojakā jalajen' eva assaṃ, V. 445 ; Mbh. VII. 36. 36; VIII. 38. 13; XII. 36. 14 ; Kāmbojānāṃ nadījānāṃ, VI. 91. 3f). Āraṭṭa (Mbh. VI, 91. 3f) and Vanāyu (VI. 36. 36; VIII. 38. 13) also figure as famous sources of supply, the latter of the white-coloured breed. Bāhlika appears (VII. 36. 36) in the list as well as Mahī[6] and Parvatīya[7] (VI. 91. 3f.; VII. 36. 36) and the trans-Himalayan region around Lake Mānasa where Arjuna obtained as tribute during his *digvijaya* many of the species called *tittiri* and *kalmaṣānmaṇḍūka* (II.

1 Suggested conjecturally (*a*) to be Arabia both being famous for horses, (*b*) to be Van or Urartu from philological similarity, but Van was never noted for its horse, (*c*) placed in the N. W. Frontier by the Padmapurāṇa (Svarga, Adi. Ch. III.)

2 Identified by Lassen with Balkh or Bactria. But references in the Mahābhārata assign it to the Punjab as synonymous with Madras, Āraṭṭas and Jārtikas. On this basis (and Mbh. VIII. 44) it is placed west of the Ravi, the Madra city of Śākala being located there.

3 Pāpa ? There are two Pāpas or Pāvas, one in Gorakhpur, the city of the Mallas and another in Bihar.

4 Northern Gujarat.

5 Taitila is Kalinga according to Monier Williams.

6 Is it river Māhī, north of the river Narmadā,—the Mophis of Ptolemy and Mais of the Periplus? There is another river Mahī, tributary of the Ganges in Saran district, one of the five rivers frequently enumerated in Buddhist literature.

7 This seems to be Ptolemy's Parautoi (17. 3) and Parsyetai (18.3) and on his reference, is placed in the west and middle of Paropanisadai, or southern and eastern sides of the Hindukush. Have the Aśvakas which is the Aspasioi of Alexander's historians through the Iranian form Aspa (=horse) located in the hill country north of the Kabul anything to do with its supply of horses?

28. 6). In general the source for pedigree steeds was the north-western regions including Sind, the Punjab, the North-West Frontier and Afghanistan. The north-west has been traditionally associated with this trade; the horse-dealers from Uttarāpatha[1] bring their animals for sale to Banaras (Jāt. II. 31. 287) ; horses of various species are among the tributes brought to Arjuna by the northern monarchs (Mbh. II. 28. 18 f.), and this is among the chief articles of merchandise coming to the plains along the trade-routes from the Himalayas (Arth. VII. 12).[2]

The elephant :

As for elephants, the Arthaśāstra says that those of Kalinga, Anga, Karūśa[3] and Prācya are best ; of Daśārṇa[4] and western countries of middle quality ; of Surāṣṭra[5] and Pañcajana[6] of low quality (I. 2). In the Kuru war men of Anga are found specialised in elephantry (Mbh. VIII. 22. 18) and the battle episodes have many references to the effect that

1 It included the Punjab, Kashmir, the N. W. Frontier and part of Afghanistan.

2 These quarters still supply the finest breed of horses for the army and the races.

3 Pāṇini assigns it in the Deccan (IV. i. 178). In the Viṣṇupurāṇa the Kārūśas are placed along with the Mālavas along the Pāripātra mountains in the west. In the Matsya, (114. 46-48) they are said to be dwellers of Dakṣiṇāpatha along with the Āṭavyas, Śavaras, Pulindas, Vindhyapuṣikas, Vaidarbhas, and Daṇḍakas. Thus Karūśa is in the skirts of the western Vindhyas.

But Karūśa here seems to be an eastern country. According to Bhāgavata it is another name for Puṇḍra (X. 66) which is more appropriate here.

4 In the Madhya Pradesh.

5 Kathiawad.

6 Ābhīra—Monier Williams. Literally 'land of the five peoples.'

Prāgjyotiṣa of Bengal (or Assam ?) was rich in elephant (VI. 100. 13; VII. 26) of a quality unequalled in the Kuru and Pāṇḍava armies. So, as the best stallion came from the west, the best elephant was supplied from the east, from the forests of Orissa, Bhagalpur and Bengal while those of the great Daṇḍaka forest, *i. e.*, in the south-east of the Vindhyas, of farther west and of Gujarat were comparatively inferior.

Ivory :

The settlements near about these forests must have supplied ivory and specialised in ivory works. According to the Periplus "the region of Dosarena yields the ivory known as Dosarenic" (62). It may not be wild to conjecture the origin of the name Dantapura,[1] the capital of Kalinga to the same flourishing industry. Ivory-workers are seen pursuing a prosperous trade in Barāṇasi (Jāt. I. 320 f. ; II. 197), in Ayodhyā (Rām. II. 83. 12 ff.), in Vedisā (Bhilsa—Sanchi In.) and in the Tamil countries (Peri. 56) obviously with materials imported from the above-mentioned sources.[2]

Skins :

The sources for horses listed above appear also as sources of animal skins. The varieties given in the Arthaśāstra (II. 11) are mostly assigned by the commentator to the Himalayan borders and skins are among the wares purveyed in the plains from the Himalayan route (VII. 12). Arjuna obtained skins during his promenade in north Harivarṣa

1 The ascription of the name to Buddha's tooth relic is a later invention. See *supra*, p. 213.

2 This craft is now practically confined to Mysore. Travancore, Delhi and Murshidabad follow in order.

(Mbh. II. 28. 16). The northern Kirātas brought this as tribute to the Kuru king among other Himalayan products (II. 52. 10 f.). Deerskins and skins of Ranku deer were presented to Yudhiṣṭhira by the king of Kamboja (II. 49. 19) and by the Bāhlikas (II. 51. 26), *i. e.*, from the Punjab.

Food-crops :

About the distribution of food-crops information is meagre. In the Periplus, Abiria (Ābhīra in Gujarat) is a fertile country yielding wheat and rice, sesame oil and clarified butter (41). This is confirmed by the further reference to these as the major articles of export from Barygaza, the seaport nearest to the Ābhīras (14, 31, 32). But there is abundant evidence that wheat and rice and many other cereals were grown over almost any part of the country.[1]

References to sugarcane come mostly from the Madhyadeśa through which flows the river Ikṣumatī or Oxymagis, *i. e.*, the Uttar Pradesh or the Ganges doab which, according to the report of 1931 produced 51·7 p. c. of the total cane crop of India.

Herbs, roots and gums :

In the classical works, India has been noted as the chief producer of aromatic or medicinal herbs, roots and resinous gums. Prominent among this group are nard which "holds the first place among unguents" (Pliny, XII. 26); costus, an aromatic root ; myrrh, another medicinal and aromatic gum ; cardamom, a medicinal herb ; spikenard, a fragrant herb made into oil or ointment; macir, the red bark of a large root used for medicine (Pliny, XII. 16) ; pepper, ginger and malabathrum used as condiments.

1 See Bk. I. Ch. VIII.

Malabathrum :

According to Ptolemy, the best malabathrum or cassia leaf is produced in Kirrhadia (2. 16), a town near the eastern coast of Bengal.[1] It was brought down to the port of Tāmralipti for export (Peri. 63). An interesting study is given how the Besatae, a Tibeto-Burman tribe of the Himalayas, transacted in silent trade in their malabathrum with the people of This (China) (65). It was grown also in the interior of the Tamil countries reaching the ports of Tyndis, Muziris and Nelcynda for export outside (56).

Spikenard :

Spikenard is generally discovered in the same regions, *i. e.*, in the north-west and the north-east as well as in Malabar (56).[2] In order of its source its varieties are termed Caspapyrene (*i. e.*, of Kaśyapapura),[3] Paropanisene (of Paropanisadai or the Hindukush) and Kabolitic (of Kabul) (48). According to Strabo, the land of Gedrosia (southern Beluchistan) produced aromatic plants, particularly spikenard and myrrh which Alexander's army used for tent roofs and beds (XV. ii. 3). On the other hand the famous Gangetic spikenard came from the Himalayas to the ports of Tāmralipti and of the far south (56, 63).

Costus, lycium, nard and bdellium :

Costus, lycium, nard and bdellium were exported from the port of Barbaricum at the mouth of the Indus (39). This, Sind or regions farther north, may be the "upper country"

1 Lassen places it between Chittagong and the mouth of the Arakan river,—Ind. Ant., III, pp. 235-37. Malabathrum (tejpāt) is now obtained in Sylhet, Assam, Rangpur and the valleys of the Himalayas.

2 Malabar is now the chief source of edible spices.

3 Stein identifies this with Kashmir, Cunningham with Multan.

from where costus and bdellium were carried through Ozene to Barygaza (48). Nard grew abundantly in the country of Gedrosia (Arr. Anab. VI. 22).

Scents, sandal, aloe :

The distribution of medicinal and aromatic plants cannot be properly studied from the classical authors alone who wrote with knowledge of the seaports serving as outlets of these wares and with partial ignorance of the interior. The indigenous literature which are more reliable on this point scarcely go into details and when they do, it is difficult to identify Indian names with foreign. There are notices on scents in general terms. The Jaina Kalpasutra refers to scents of Turushka or Turkestan (100). In the Kuru war the fighters from Andhra are said to be used to rub powdered scents on their body (Mbh. VIII. 12. 16). About sandal there is more detailed information. The Arthaśāstra observes several varieties all of which, according to the commentary, are specialities of Kāmarūpa or Assam barring only a few, *viz.*, the Aśokagrāmika which belongs to Ceylon, the Daivasabheya which is of a city and adjacent hill in Western India producing the lotus-scented (padmagandhī) species and the Kāleyaka which is the product of Svarṇabhūmi[1] (II. 11). Philastratos of Lemnos, biographer of Appollonius of Tyana (*cir.* 172 A. D.), writes that on the banks of the Hyphasis (Beas) 'grew the trees from which unguent was procured with which bride and bridegroom were anointed, that Venus might be propitious to their nuptials." Another primary source was the Malaya hills. A verse in the Rājanighaṇṭu, an Ayurvedic work, says that the sandal produced in Beṭṭa mountain near the Malaya hill is called Beṭṭa. This is obviously Mount

1 Suvarṇabhūmi is Burma or Sumatra. See *infra*, Bk. III. Ch. V.

Bettigo of Ptolemy (I. 22) which is the southern portion of the Western Ghats. This sandal of the Malaya hills and the sandal and aloe of the Dardara hills[1] were exploited by the Cholas and the Pāṇḍyas (Mbh. II. 52, 33 ff). Sandal, aloe, and other perfumes were produced by the people of the Bengal coast called the Mleccha tribes (Mbh. II. 30. 27), in the land of Banaras (kāsikacandana, Jāt. V. 302; An. I. 145; Mil. 348), in Barbaricum of the lower Indus (barbarika—Dhanvantarīya Nighaṇṭu, Rājanighaṇṭu) the variety which is white and scentless and among the Kirātas of the north-western Himalayan slopes (Mbh. II. 52. 10 f.) who recall the Kirhadai of Ptolemy. It reached down to Barygaza to be shipped to the ports of the Persian Gulf (Peri. 36).[2]

1 *Cf.* Kalpasutra, 100. Pargiter suggests them to be the Nilgiris.

2 The list envisages a wide distribution of *candana* besides in Mysore and Malabar where sandalwood is now confined. The soil and climate of these latter are naturally fitted for the growth and in former times these led all other places as appears from several evidences (binā malayam anyatra candanaṃ na vivardhate—Amarakoṣa ; Raghu, IV. 51 ; Pañcatantra, 1. 42 ; Kāvyamīmāṃsā ; the Tamil epic Silappadikāram). The earlier growth of *candana* in other places than these which in the botanists' opinion do not offer the requisite geological and climatic environments may be explained by either of two circumstances: firstly, soil conditions may have changed or proper attempts may not have been made in these days to cultivate sandal in those places ; secondly, *candana* may not be quite conterminous with sandal proper. It undoubtedly implied scented varieties absolutely unrelated to the Santalum Album as the Mysore sandal is called for which the Indian term is *pītacandana*. The *raktacandana* and *kucandana* are quite different species and are now grown in many places. It is not improbable that several scented woods went under the general name of *candana* the meaning of which was narrowed down culminating in course of time in the Santalum Album Linn.

There is another possibility. Some of the places mentioned, parti-

Dyes :

Of plants made into dyes there were many. Those like lac and *kusumbha* flower were common articles over India. So probably was indigo (Pliny, XXXIII. 4), which was exported outside from Barbaricum (Peri. 39).

Varieties of spirituous liquor are mentioned, *e. g*, the *soma* juice, the *vāruṇi*, etc. But the best perhaps was the grape wine from the vines of Kapisā (Afghanistan) (Pāṇini, IV. 2. 99; Arth. II. 25).

Gold, ant-gold :

Among metals, gold is the most common occurrence, Herodotus writes, "There is abundance of gold there, partly dug, partly brought down by the rivers, and partly seized by the manner I have described" (III. 106). The first is the gold obtained from mines. The second is alluvial gold or gold dust carried down by certain rivers presumably from their bed or from their rocky source. The third category, the ant-gold celebrated by all classical writers from Herodotus to Pliny and noticed in the Mahābhārata was in fact nothing but mine gold. About this Strabo gives the following account :

"Among the Dardai, a great tribe of Indians, who inhabit the mountains on the eastern borders, there is an elevated plateau about 3,000 stadia in circuit. Beneath the surface there are mines of gold, and here accordingly are found the ants which dig for that metal. They are not inferior in size to wild foxes. They run with amazing speed, and live by the

cularly Assam and the land of the Kirātas, may have been the route along which sandal came to India from China.

For the discussion whether Santalum Album was an indigenous plant or an exotic one naturalised in India from the Timor islands see C. E. C. Fischer: Where did the Sandalwood Tree Evolve? Jour. Bom. Nat. His. Soc., Vol. XL. No. 8.

produce of the chase. The time when they dig is winter.[1] They throw up heaps of earth as moles do at the mouth of the mines. The gold dust has to be subjected to a little boiling. The people of the neighbourhood, coming secretly with beasts of burden carry this off. If they come openly the ants would attack them and pursue them if they fled, and would destroy both them and their cattle. So, to effect the robbery without being observed, they lay down in several different places pieces of the flesh of wild beasts, and when the ants are by this devise dispersed, they carry off the gold dust. This they sell to any trader they meet with while it is still in the state of ore, for the art of fusing metals is unknown to them" (XV. i. 44).

Tibetan and Himalayan plateau :

Arrian quotes Nearchos having seen many skins of these animals in the Macedonian Camp (15 ; *cf.* Pliny, VI, XI. 31). These mythic ants, equipped with horns, "not inferior in size to wild foxes," gifted with "amazing speed" and living upon chase, capable of destroying men and their cattle have not been satisfactorily identified. The most plausible theory advanced so far is that the whole is a confused and mythic version of the mining operation of the Tibetans who dug in winter, whose ferocious black-and-tan coloured mastiffs guarded dwellings and mines as even now and whose pickaxes were grafted by hearsay as horns on the animals.[2] Whatever

1 "The miners of Thek Jalung.....prefer working in winter.....as the frozen soil there stands well and is not likely to trouble them much by falling in." J.R.A.S., Vol. 39, pp. 149 f.

2 See Indian Antiquary, Vol, IV. pp. 225 ff. where arguments are adduced to prove that "the gold-digging ants were originally neither, as the ancients supposed, real ants nor as so many eminent men of learning have supposed, larger animals mistaken for ants on account of their

the identity of these ants it cannot be doubted that there were gold mines in Dardistan or the Tibetan highlands or farther west in the Himalayan tracts. During the sacrifice of Rājasūya the people of Meru and Mandara,[1] *i. e.*, of modern Garhwal, brought to Yudhiṣṭhira heaps of gold measured in jars and raised from underneath the earth by ants (pipīlikaṃ nāma uddhṛtaṃ yat pipīlikaiḥ). The Kirātas of the north-western Himalayas brought along with other articles of tribute gold of great splendour procured from the mountains (Mbh. II. 52. 10f). Because of the reputation of this gold along the upper courses of the Indus among the westerners, the Indus has been supposed to be one of the four rivers of Paradise in the Book of Genesis, *viz.*, the Pishon, "which compasseth the whole land of Havilah where there is gold; and the gold of that land is good."[2]

Other sources :

There were other sources of the metal. The author of the Periplus heard that there were gold mines near Tāmralipti or Tamluk and that there was a gold coin called *caltis* (63). Schoff suggests that this might have been the gold of the Chotanagpur plateau, 75-150 miles west to the mouth of the Ganges.[3] Rivers like the Son (from *svarṇa* or *suvarṇa*) known

appearance or subterranean habits, but Tibetan miners whose mode of life and dress was in the remotest antiquity what they are at the present day."—McCrindle: Megasthenes.

1 Mandāra is in Bhagalpur district, 35 miles south of Bhagalpur (Mbh. XIII. 19; III. 162, 164). But Meru, the "mountain of Gold" of the Purāṇas stood at the centre of the trans-Himalayan tract of Ilāvṛta, *i.e.*, in Garhwal in whose neighbourhood must have been another Mandāra or Mandara.

2 Havilah is identified with Mānasa-sarovara.

3 Where many old workings along with the outcrops of the veins have been discovered.

as Erannoboas or Hiraṇyavahā,[1] carried alluvial gold in considerable quantities. The so-called Mleccha tribes of Bengal brought gold as tribute to Yudhiṣṭhira (Mbh. II. 30. 27). Farther east was the island (or land) of Suvarṇabhūmi and Suvarṇadwīpa identified with Burma or preferably with Sumatra,[2] owing its name to its gold mines (suvarṇa-rūpakadwīpaṃ suvarṇākaramaṇḍitam, Rām. IV. 40. 30).[3] Pliny states that extensive gold mines were operated on the other side of Mount Capitalia (Abu) (VI).[4] The heavy tribute paid in 360 talents of gold dust annually by the Indian satrapy of the Persian Empire, *i. e.*, the country west of the Indus (Herodotus, III. 97) may have been obtained from the northern mountains or from some local centre. But gold was far more plentiful in the south than in the north (Arth. VII. 12). Pliny mentions gold on the Malabar coast obviously coming from the mines of Mysore.[5] And "from Megasthenes we learn that Taprobane is more productive of gold than India itself" (VI. 22).

1 The Son is referred to as Hiraṇyavāha in Bāṇa's Harṣacaritam.

2 The alternative Suvarṇadwīpa is a strong support for Sumatra (*cf.* Yavabhūmi and Yavadwīpa for Java) which has always been noted for its abundance of gold. In popular parlance the name however went for the East Indian islands including Burma and Malay. See R. C. Majumdar: Suvarṇadwīpa.

3 Pliny is more sceptic. "Beyond the mouth of the Indus are Chryss and Argyre (identified by Yule with Burma and Arakan) rich, as I believe in metals. For I cannot readily believe, what is asserted by some writers that their soil is impregnated with gold and silver" (VI).

4 On this authority, Cunningham places Pliny's Oraturoe south of this region, on the Gulf of Cambay and identifies it with Sophir or Ophir of the Bible from where the Tyrian navy carried away gold and precious stones in the days of Solomon. For other identifications of Sophir or Ophir, see *supra*, pp. 222f.

5 The quartz reefs of Kolar are now the source of 98 p.c. of India's total gold supply.

Silver :

To some of these sources silver is attributed along with gold. As "gold is very abundant among the Dardae" so is "silver among the Setae" (Sāta or Sātaka near the Dāradas) (Pliny, VI). In Pliny's work silver mine is spotted along with gold near Abu.[1] According to Ptolemy Ceylon had mines of gold, silver and other metals (4. 1). The Bengal tribes brought silver as well as gold to the Pāṇḍavas. In Greek Arakan went as the silver country.[2] Sugrīva's search party in the east came across the land of silver mines (bhūmiñca rajatākaram, Rām. IV. 40. 23)[3] and farther east the island of Rūpakadwīpa, thus strongly refuting the scepticism of Pliny about gold or silver mines in far eastern regions.

Other metals :

On the whole silver seems to have been a much rarer metal than gold. In Indian and foreign literature, particularly in Pali works, reference to it is far less common than to the latter.[4] The sources of other metals of lesser value are referred to even less frequently for obvious reasons. They were not worth bringing as precious tributes to propitiate conquering monarchs nor would they interest foreigners concerned with trade transactions or whose primary source of

1 The only silver mines now known in India.

2 Probably a transliteration of an ancient Burmese name for Arakan. "There are no silver mines in Arakan and considering the geological structure of the country, it is almost certain there never were any." V. Ball: Presidential Address to the Royal Geological Society of Ireland, Mar. 19, 1883.

3 The northern Shan States of Upper Burma used to supply much of India's silver requirement during the days of British rule.

4 Mrs. Rhys Davids: J. R. A. S. 1901.

knowledge was trade relation. In using our authorities these underlying motives which detract from their completeness should always be borne in mind.

Copper :

The Periplus notices copper among the exports from Barygaza (36). The source is not known. The metal is not extensively worked at present. But formerly it was smelted in large quantities in South India, Rajputana and at various parts of the outer Himalayas where a Killas-like rock persists along the whole range and is known to be copper-bearing in Kulu, Garhwal, Nepal, Sikkim and Bhutan.[1] Schoff supposes that this might also be European copper of the Parthian Empire re-shipped to the West.

Rock salt :

There were rocks yielding salt. "There are mountains also formed of native salt as, for instance, Ormenus in India where it is cut out like blocks from a quarry and is continually reproduced, whence a greater revenue accrues to the sovereign of the country than they derive from gold and pearls" (Pliny, XXXI, 7). "In the territory of the Sopeithes there is a mountain composed of fossil salt, sufficient for the whole of India" (Str. XV. i. 30). This salt-range extended westward from the Hydaspes (Jhelum) towards the Indus.[2]

1 Watt: Commercial Products of India, p. 401. Remains of old excavation and exhausted mines are found in several places near about Darjeeling and Jainti, in Bargunda, Manbhum and the Santhal Parganas, in Singbhum where the deposits are said to have been exploited by the Seraks or lay Jains about or before the Christianera, in Tamkhan of the Indore state, in Harpat Nag of Kashmir, in Nellore of Madras, in the Narnul district of Patiala and in Rajputana, Sikkim, etc.

2 McCrindle: Ancient India as described in Classical Literature, on Strabo, V. ii. 6.

The Arthaśāstra assigns rock salt to Sind (Saindhava, II. 15).

Diamond :

The Arthaśāstra enumerates diamonds of several varieties the sources of which are attributed by the commentary to Vidarbha (sabhārāṣṭraka), Kośala (madhyamarāṣṭraka), Kāśī (kāśmaka) and Kalinga (indravāṇaka) (II. 11). Within Kalinga falls Ptolemy's "Mouth of the River Adamas" (1. 17) or Diamonds, which, observes Yule, was in all probability the Sank branch of the Brāhmaṇī from where diamonds were got in the days of Mughal splendour. And near about Vidarbha was probably "Kosa, where are diamonds" (1. 65) which is located by Lassen on the upper Varadā in the neighbourhood of Baital. A third source was "the Sabarai, towards the Ganges in whose country diamond is found in great abundance" (1. 80) identified by Cunningham with the Śavaras or Suars and placed by Yule farther north in Dosarene towards Sambhalpur.

Precious stones :

But according to the Arthaśāstra itself, diamonds and precious stones were a speciality of the south rather than of the north (VII. 12). In the Periplus it is stated that from the interior of the Tamil countries diamonds, transparent stones and sapphires were brought down to the seaports of Tyndis, Muziris and Nelcynda to be shipped to Arabia and Rome (56).[1] These stones were a speciality also of Ceylon (61).

1 There are still alluvial working of diamond (*i*) in the valley of the Mahanadi in Bihar and Orissa with a westward extension into the Madhya Pradesh and an outlying area to the north in the valley of the Koel, a tributary of the Son: (*ii*) in Central India, conglomerates

In the north "the rivers which produce precious stones are the Akesines (Chenab) and the Ganges" (Pliny, XXXVII. 13). There were centres farther north since the kings there brought these lucrative tributes to Arjuna along with horses (Mbh. II. 28. 18 f.). According to the Arthaśāstra the mountains of Malaya (the Western Ghats, south of the Caveri), the Vindhyas and the Strīrājya[1] are sources of *vaidūrya* (beryl) and other gems (II. 11). The southern Vindhyas or the Satpura and the northern part of the Western Ghats[2] must have been the Vaidurya chain or the Orondian mountain of Ptolemy, stated in the Mahābhārata to have been crossed by the Pāṇḍavas in their pilgrimage from Vidarbha to the Narmadā. Turquoise and lapis lazuli were exported from Barbaricum (Peri 39). Agate and Carnelian were transported from Ozene (Ujjein, 48) and Carnelian in great quantity from Paethana (Paithan on the Godavari, 51) and from other inland sources (49), possibly Mount Sardonix (Satpura range) which supplied sardonic stone, *i.e.*, a species of Carnelian (Ptolemy, I. 20).[3]

Pearl-fishery :

Like the mines and the mountains the sea was exploited for extraction of wealth. Pearl-fishery was a foremost industry in the south. The straits between the Pāṇḍya king-

extending for a distance of about 60 miles with the state of Panna in the centre ; (*iii*) in the southern districts of Anantapur, Bellary, Cuddapah, Karnool, Krishna and Godavari.

1 The Himalayan country of Garhwal and Kumaon. In the Purāṇas Strīrājya is in the Tamil country.

2 Raychaudhuri: Studies in Indian Antiquities, p. 131.

3 The same difficulty with regard to identification of Indian and foreign names occurs here as in the case of aromatics. See *supra*, p. 262.

dom and Ceylon were its chief centres and these two states made a lucrative profit from this trade. "The water of the Tamraparṇī which is famed all the earth over for the pearls which the wives of the feudatories in his army, while they mirthfully bathed in the stream, dropped into it from the breaking girdles on their hips, behold, even to this day that water affords a livelihood to the Pāṇḍya chief". (Nagpur Stone In. of the Mālava rulers, 1104-5 A.D.).[1] "The southern ocean full of rolling waves, the shores of which were shining with the multitude of rays of numerous pearls dropped from shells struck and broken by the trunks of excited elephants resembling whales....." (Kendur Pl. of Kīrtivarman II, Saka Sam. 672).[2] All the varieties of pearl mentioned in the Arthaśāstra are specialities of Pāṇḍya and Kerala countries and of Ceylon (II. 11; VII. 12). In the Periplus, Ceylon on the one shore (61) and Colchi (Kolkai) of the Pāṇḍya kingdom and Argaru (Uraiyūr) of the Chola figure as centres of pearl-fishing.[3] Ptolemy mentions pearl-fishery in the Kolkhic Gulf (1. 10), *i e.*, in the Gulf of Manar in south Tinnevelly. Pliny quotes Megasthenes to the effect that Taprobane produced pearls of greater size than India (VI. 22).

In the north :

The north also gave pearls though of inferior quality and smaller size. The northern centre was the Bengal coast from where the *mleccha* tribes paid to Bhīma tributes of gems,

1 E. I. II. 13.

2 E. I. IX. 28.

3 In the south pearl-fishing seems to have been a state monopoly. The Periplus says that Colchi was worked by condemned criminals and regarding Argaru, "at this place and nowhere else are brought the pearls gathered on the coast thereabouts." The Nagpur Inscription is also a pointer. See *supra*, fn. 1.

pearls (maṇimauktika) and valuable corals (vidrumañca mahādhanam, Mbh. II. 30. 27). That pearls were fished near about the port of Tāmralipti and gathered there for export is also affirmed in the Periplus (63). Pliny ascribes the trade also to Perimula (VI. 54) placed in the western coast somewhere near Bombay or in Simylla.

Sea-fishing :

Apart from pearls, sea-fishing was the main occupation of the Ceylonese. "All their energy is devoted to catching fish and the monsters of the deep; for the sea encircling the island is reported to breed an incredible number of fish....." (Aelian, 16. 2. 22). Ceylon and the Tamil countries made use of tortoise-shell (Peri. 61, 56) as well as other shells (śaṃkha, Arth. VII. 2) which they supplied to the north and abroad to the West.[1]

Textile fabric, Banaras :

In textile industry, the north was leading against the south (Arth. VII. 12). The choicest stuff were of Banaras and Bengal. The fine muslin of Kāsi (kāsikasucivattha, kāsikāni vatthāni) is a common reference (Jāt IV. 352, V. 377, VI. 47, 144 ; Mil. 1). A familiar simile is the Banaras muslin of delicate finish on both sides, blue (or yellow, or red or white) in colour, blue (or yellow, etc.) in appearance, and reflecting blue (or yellow, etc.) (vatthaṃ Bārāṇaseyyakaṃ ubhatobhāgavimaṭṭhaṃ nīlaṃ nīlavaṇṇaṃ nīlanidassanaṃ nīlanibhāsaṃ, Dn. XIV. iii. 29 ; XXIII. iii, 1 ; Mn. II. 13, An. V. 61 f). It is pleasant to handle (sukhasamphassaṃ), of great worth (mahagghaṃ), of good colour (vaṇṇavantaṃ) and a treasure to be laid up in a scented casket (An. I. 248). Kāsi is in the

1 Northern traders voyaging from Barygaza brought tortoise shell also from Socotra.

list of places which produce the best quality of cotton fabrics (Arth. II. 11. Sn. V. 45). According to the commentator of the Mahāparinibbāna Sutta, the texture was so fine that it absorbed no oil and hence was used to cover the body of the deceased Buddha. There were extensive cotton fields in the neighbourhood from which the yarn was spun (Jāt. III. 286). The silk-fabric of Banaras still carries this reputation.

Of Bengal :

The Bengal spinners and weavers produced muslins of the finest sort called Gangetic which were brought down to Tāmralipti for export (Peri. 63), the traditions of which were maintained by the famous muslins of Dacca, Santipur and Farashdanga down to the advent of British traders. In the Arthaśāstra list, Vanga (Eastern Bengal) was the source of cotton fabrics and blankets. Puṇḍra (Northern Bengal) and Suvarṇakuḍya[1] supplied blankets and fibrous garments (patrorṇāḥ) ; the latter were available also in Magadha (II. 11). Among the presents received by Bhīma from the *mlecchas* on the coast of Bengal were fine cloths and blankets (cāru-vastrāṇi, kambalam, Mbh. II. 30. 27). Sericulture was known somewhere near about, for the eastern party sent by Sugrīva from Kiṣkindhyā came across the land of worms yielding silk thread (bhūmiñca koṣakārāṇām, Rām. IV. 40, 23).[2]

The north, wool :

The north was another source, chiefly of woollen clothes.[3] As a source of blankets, the Arthaśāstra mentions Nepal

1 ?

2 Is it Assam ? Attempts have been made to identify this with China.

3 The Punjab, Kashmir and Tibeto-Himalayan ranges still carry the tradition.

(II. 11 ; Manu, III. 234 f) and the Himalayan regions in general (VII. 12). The king of Kamboja sent to Yudhiṣṭhira as tribute blankets of finest texture along with deer skins (Mbh. II. 49. 19) including those of sheep's wool, fur of mice and other animals living in holes and of the hair of cats all inlaid with threads of gold :—

aurṇān vailān vārṣadaṃśān jātarūpapariṣkṛtān
prāvārajinamukhyāṃśca kāmbojaḥ pradadan bahūn.
51. 3.

The Bāhlikas presented numerous blankets of woollen texture manufactured in Cīna,[1] numerous skins of Ranku deer and clothes prepared from jute and from the threads of insects :

pramāṇa-rāga-sparśādyān bāhlīcīnasamudbhavaṃ
aurṇañca rānkavañcaiva paṭajaṃ kīṭajantathā.
51. 26

In north Harivarṣa Arjuna obtained finest clothes and silks (28. 16). The cloth produced in the Śivi country,[2] of which the choicest suit of king Pajjota of Avanti was made (Mv. VIII. 29), was a known luxury favoured in the palace.[3]

1 This is not China proper but Tibeto-Mongoloid races, or people vaguely acknowledging Chinese suzerainty beyond the Himalayas.

2 From the testimony of Fa-hien and of Hiuen Tsang who makes the Su-ho-to the scene of the classic story of king Uśīnara giving his flesh to save his fugitive pigeon, it would appear to be in Gandhāra or Swat valley (Beal's Records, p. 206). But from the Sibipura in Shorkot Inscription Vogel places it in Shorkot in Jhang district below the junction of the Jhelum and the Chenab. It may be the Siboe of Strabo (Iboe-Diod, Sobii-Curtius) and Śivapura of Pāṇini said to belong to the northern country. Cunningham places it in Lower Beas in Jullundhar district. A branch of the Sibis migrated to Mewar where they had their capital Jetuttara (Vessantara Jāt. ; Jattaraur, Alberuni : India, I, p. 302).

3 *Siveyyakaṃ dussayugaṃ.* Buddhaghosa gives two explanations

Other sources :

The Arthaśāstra list is completed with Madhurā (of the south),[1] Aparānta (Konkana),[1] Kaliṅga, Vatsa (city of Kauśāmbī),[1] and Mahīśa (Māhiśmatī)[1] for the best stuff of cotton fabrics. Of these Aparānta and Māhiśmatī are corroborated in the Periplus which deals with the same countries while speaking of Barygaza, Ozene and Abiria. From Barygaza were shipped westward, mallow cloth, yarn, silk cloth and cotton cloth, the broad type called *monache*[2] and that called *sagmatogene*[3] (6, 14, 31, 32, 49). Ujjainī was one of the centres of production of these textiles transported to Barygaza (48). In Abiria, a very fertile country, cotton was extensively cultivated and cloth made therefrom of coarser sort (41). But a sheep-rearing, pastoral people as they were (41), the Ābhīras produced blankets of better stuff of which they brought various kinds as present to king Yudhiṣṭhira. Cotton cloth and silk yarn were exported also from Barbaricum (39), probably the produce brought down from the north.

Madhurā of the Arthaśāstra is also confirmed. The silk cloth of the Tamil ports of Nelcynda, Tyndis and Muziris were inland produce (56). Muslin, mallow cloth and much ordinary cloth were carried from Tagara to Barygaza (51). The Cholas and the Pāṇḍyas brought to the Pāṇḍavas fine cloth inlaid with gold (Mbh. II. 52. 33 ff).

* * *

The countries and their specialised commodities so far

of which the latter, more plausible, is "a cloth woven from yarn which skilful women of the Sivi country spin."

1 Commentary.

2 Mīnākṣī ?

3 ?

as they may be ascertained from the above may be arranged thus in tabular order:—

COMMODITY	COUNTRY	
Animals	(Ancient names)	(Modern equivalents)
1. Horse	*Sindhu, Kāmboja, Āraṭṭa, Vanāyu*, Bahlika, Sauvīra, Lake Mānasa, Pārvatīya.	*Sind, Punjab, N. W. F. P.* N. Gujarat, Mansarowar, S. E. of Hindukush.
2. Elephant	*Prāgjyotiṣa, Karūśa, Anga, Kaliṅga*, Daśārṇa, Surāṣṭra.	*Bengal, Bhagalpur, Orissa*, S. E. of Vindhyas, Kathiawad.
Animal produce		
3. Ivory	Daśārṇa, Dantapura, Kāśī, Ayodhyā, Vidiśā. Tamil countries.	S. E. Vindhyas, Dantan (Midnapore ?), Banaras, Oudh, Bhilsa, Mysore.
4. Skins	*Himalayan borders*, N. Harivarṣa, Nn. Kirātas, Kāmboja, Bāhlika.	*N. W. of Himalayas, Hindukush*, Punjab.
Food crops		
5. Rice, Wheat, Sesame	Ābhīra	Coast of S. Gujarat.
Herbs, Roots, Gums		
6. Malabathrum	Kirrhadia, Besatae, Tamil	Rangpur (?), Tibeto-Burma, Tamil countries.
7. Spikenard	Kaśyapapura, Paropanisadai, Kabul, Gedrosia, En. Himalayas.	Kashmir, Hindukush, Kabul, S. Beluchistan, En. Himalayas.
8. Myrrh	Gedrosia	S. Beluchistan.
9. Nard	Gedrosia, N. of Barbaricum	S. Beluchistan, Sind (?)
10. Costus, Lycium, Bdellium.	N. of Barbaricum and of Ozene.	Sind and regions farther north (?)
Perfumes		
11. Scents	Turuska, Andhra	Turkestan, Andhra.

COMMODITY	COUNTRY	
	(Ancient names)	(Modern equivalents)
12. Sandal	*Kāmarūpa*, Bengal coast, Suvarṇabhūmi, Kāśī, Hyphasis, Nn. Kirātas, Daivasabhā, Aśokagrāma, *Malaya & Dardara Hills.*	*Assam*, Bengal, Sumatra, Banaras, the Beas, N. W. of Himalayas, Ceylon, *Mysore.*
13. Aloe	Bengal coast, Nn. Kirātas, Dardara Hills	Bengal, N. W. of Himalayas, Nilgiris.
Dye		
14. Indigo	N. of Barbaricum	Sind (?)
Wine		
15. Grape wine	*Kapisā*	*Afghanistan*
Minerals		
16. Gold	*Dardai, Meru*, Mandara, Northern Kirātas, Upper Indus, Havilah, near Tāmralipti, Erannoboas, Suvarṇabhūmi, E. of Mt. Capitalia, *Malabar, Taprobane.*	*Tibet, Garhwal*, N. W. of Himalayas and Hindu Kush, Chotanagpur (?), the Son, Sumatra, Rajputana, *Malabar, Ceylon.*
17. Silver	Setae, E. of Mt. Capitalia, Bengal, Rūpakadwīpa, Ceylon.	Tibet, Rajputana, Chotanagpur (?), Sumatra, Ceylon.
18. Copper	(exported from) Barygaza	S. India, Rajputana, Himalayan range.
19. Rock salt	Mt. *Ormenus*, Sindhu	*Range between Jhelum and Indus.*
20. Diamond	Vidarbha, Kośala, Kāśī Kalinga, Sabarai, Tamil	Berar, Oudh, Banaras, Orissa, Sambhalpur (?), Tamil.
21. Stones	Akesines and Ganges, N. of Himalayas, Strīrājya, *Vindhyas*, Ozene, Paethana. *Malaya, Tamil, Ceylon.*	Chenab and Ganges, Garhwal and Himalayas, *Vindhyas* and *Satpura, Wn. Ghats, Ceylon.*

COMMODITY		COUNTRY	
		(Ancient names)	(Modern equivalents)
Fishery			
22.	Pearl	*Pāṇḍya, Taprobane, Bengal coast,* Simylla.	*S. E. coast of Tamil, Ceylon, Bengal coast.*
23.	Coral	Bengal coast	Bengal coast
24.	Sea-fishing, tortoise and other shell.	Tamil, Ceylon.	Tamil, Ceylon.
Textiles			
25.	Cotton cloth	*Śivi, Kāśī, Vanga, Puṇḍra,* Magadha, Kalinga, Vatsa, Aparānta, Māhiṣmatī, Ābhīra, Madhurā, Chola, Pāṇḍya.	Shorkot, *Banaras, E. & N. Bengal,* Bihar, Orissa, Maharashtra, Tamil.
26.	Blankets	*Vanga, Puṇḍra, Nepal,* N. W. Himalayas, *Kāmboja,* Bāhlika, Ābhīra.	*E. & N. Bengal, Nepal,* N.W.Himalayas, *Punjab,* Balkh (?), Maharashtra.
27.	Silk	*Silk land of East,* Bāhlika, N. Harivarṣa, Tamil.	*Assam* (?), Balkh (?), N. Himalayas, Tamil.
28.	Jute and fibrous cloth	*Puṇḍra,* Magadha, Bāhlika	*N. Bengal,* Bihar, Balkh (?).

The list is no doubt incomplete, defective and lacking valid confirmation in many cases. There were innumerable thriving industries outside this small range which cannot be localised for lack of materials. The compilation, tentatively made from vague and scrappy literary notices may not be correct in every detail. But the facts of localisation and specialisation stand out; and for certain industries at least, *e. g.*, the muslin of Bengal, the pearl of Pāṇḍya and Ceylon, the sandal of Mysore and Assam, the gold of Tibet, Garhwal, Malabar and Ceylon and the fleet-footed horse of Sind and the Punjab, evidences are almost unimpeachable. The cata-

logues of the Arthaśāstra and the Sabhāparva alone, from which many items have been omitted in this chapter, give the modern economist ample food for thought over the magnitude of lost arts and industries, exhausted mines and forests, exterminated flora and fauna and defertilised agricultural land.

CHAPTER V

ORGANISATION OF INDUSTRIES

Guild organisation. *Śreṇī* and *pūga*. Origin of combination. Stages: Vedic, Pali and Epic.

Organisational structure. (*a*) Localisation of industries. Theory: practice—in town, in village. (*b*) Leadership: the *pamukha*, the *jeṭṭhaka* (*c*) Heredity of occupation. Exceptions, the *antevāsi*—rules. (*d*) Guild laws: evolution; regulation of investments and dividends, of contracts; sanction against delinquency; judicial power.

Finances. The balance sheet. Public works.

Relation with civil power. Paternal care. Arbitration of disputes: the *bhaṇḍāgarika*. Guardianship ? The guild militia, a thorn.

The organised crafts.

Functions and powers. Flag. Coins. Seal. Control of Municipal power. Receiver of deposits and executor of endowments. Mobility. Cultural life. Independent development. Disintegration.

The guild :

Tools and mechanical power are not the sole means for the production of wealth. It requires organisation, combination and laws regulating business. The progress of Indian arts and crafts depended in no small degree on the organisational genius of the people. The industrial combines in ancient India have generally been termed 'guilds' as they bear a close resemblance to those prototypes of medieval Europe.

Śreṇī :

Sanskrit works use many words with references to local bodies, the distinction between which is not precisely defined. Generally, however, the terms *śreṇī* and *pūga* go for industrial

and commercial guilds.[1] Kaiyaṭa and Tattvabodhinī explain *śreṇī* in Pāṇini (II. i. 59) as an assembly of persons following a common craft or trading in a common commodity (ekena śilpena paṇyena vā ye jīvanti teṣāṃ samūhaḥ śreṇī). The commentators on Manu (VIII. 41) and Nārada (I. 7) explain it nearly in the same sense, but in the Arthaśāstra, *śreṇī* is either a guild of workmen (II. 4) or a military clan (VII. 16) or communities like those of Kāmbojas, Surāṣṭras and Kṣatriyas who subsist by agriculture, trade and military service. The *pūga* is a craft or trade guild according to the commentators of Nārada (X. 2) and Yājñavalkya (II. 31). But both Vīramitrodaya and Mitākṣarā distinguish it from the *śreṇī* as an association of persons of different castes and occupations while *śreṇī* is a more limited assembly of people of same craft or occupation though possibly of different castes.

Urge to union :

As Vṛhaspati points out, anarchy and insecurity in business were the earliest impulse to combination (XVII. 5 f). The danger came not only from the conditions of the market but also from the severity of the civil law in regard to certain crafts.[2] In fact guild life is the characteristic of an advanced stage of economic progress when "the individual mechanics, artisans or traders have sufficient business instincts developed in them, and have achieved sufficient success in their several businesses to appreciate the necessity of organising them-

1 And sometimes *gāma, nigama, gaṇa, saṃgha, samūha, samiti*, etc.

2 *E. g.*, the laws of the Arthaśāstra on gold and silversmiths. *Cf.* Manu—"But the king shall cause a goldsmith who behaves dishonestly, the most nocuous of all thorns, to be cut to pieces with razors." IX. 292. In Viṣṇu guilds of metal-workers and of smiths of gold and silver are pre-eminent.

selves into a community for the purpose of promoting their individual and collective interests."[1] The idea of organising on co-operative basis was inherent in the division of castes and allocation of functions. The Vaiśyas were called *gaṇasya* in distinction from the Brāhmaṇas and Kṣatriyas as co-operation was necessary for acquiring wealth (Bṛ. Up. 1. 4. 12 and Śankara's Com.). Within the Vaiśya or commoner caste the emergence of artisans as a distinct body from agriculture and cattle rearing signifies a further stage in this progress. In a market of free competition a craftwise combination was the only natural step for securing for the artisan cheap raw material, good market, fair price and above all, a moderate rate of *śulka* payable to the administration.

Development :

The plea of Geldner and of Roth for the existence of guilds in Vedic literature has been keenly disputed. But the words *śreṣṭhin* and *śraiṣṭhya* used in Vedic texts[2] would appear from their contexts to mean 'headman of a guild' and 'his position of primacy.' For more positive evidence of institutional growth we have to look to a much later age. "As the Buddhists placed the warrior-caste before the priest-caste and gave unrestricted freedom to the third estate, it is not wonderful that guild-life is characteristic of a Buddhistic environment."[3] Early Pali literature is full of references to guilds and heads of guilds are of the highest social position. They are great householders always represented in the social set of kings and princes. References in the Epics and in subsequent records, epigraphic and literary, are equally informative.

1 R. K. Mukherji: Local Self-government in Ancient India.
2 For references see Macdonell and Keith, Vedic Index.
3 Washburn Hopkins: India, Old and New, p. 171.

In the Śāntiparva it is fully realised that the *gaṇa* when united, acquires great wealth by the strength and prowess of its constituents (arthaścaivā' dhigamyante saṃghāta-balapauruṣaiḥ, 107. 15).

Localisation of industries, in theory :

In the origin and consolidation of guilds four important factors had their part. It has already been seen that certain industries were specialised at certain places. Within the same district or town again each industry tended to be localised at a particular area of its own. The Arthaśāstra ordains that merchants trading with scents, garlands, grains, and liquids (gandha-mālya-dhānya-rasapaṇyāḥ) are to settle in the eastern quarter of a town. Traders in cooked rice, liquor and flesh (pakkānnasurā-māṃsapaṇyāḥ) and prostitutes (rūpajīvāḥ) to the south. Artisans manufacturing worsted threads, cotton threads, bamboo-mats, skins, armours, weapons and gloves and the Śūdras to the west (ūrṇāsūtraveṇucarmavarmaśastrāvaraṇa-kāravaḥ). Smiths and workers in precious stones (lohamaṇi-kāravaḥ) find place with the tutelary deity and Brāhmaṇas in the north (II. 4). The Agnipurāṇa makes a totally different allocation except for the prostitutes and for the religious people. The goldsmiths are to be in the south-west corner of the town; the professional dancers and musicians and the harlots in the south; the stage-managers, the carriagemen and fishermen in the south-west. Those who deal in cars and chariots, weapons and cutlery in the west; liquor merchants, officers and wage-earners in the north-west; religious people in the north; fruit-vendors in the north-east. This is in the outermost circle. In the inner blocks are the military men, the civilians and the *élite* of the town. The Mayamata gives a more complicated plan. To the south—a little to the sides

should be the weavers, to the north wheelwrights or carters (cakriṇām). The outermost sites are divided into several blocks reserved for (*a*) fish, meat, dry food and vegetables, (*b*) staple food, (*c*) basins and pottery, (*d*) brass and bronze, (*e*) cloth shops, (*f*) rice and paddy, (*g*) tailoring; salt and oils, (*h*) perfumeries and flowers, all serially arranged intervening residential sites. Along the roads within the boulevard are assigned stalls of jewels and precious stones, gold, clothes, drugs and condiments like *mañjiṣṭhā*, pepper, pipal, ginger, honey, ghee, oil, medicines, etc. In ports or in trade marts stalls are not to be inter-residential but more compact, set up in continuous rows on either sides of the highway, to secure economic efficiency (Chs. 10, 11. 154-83). In a different order of planning artisans and manual workers are placed in the outermost zone of the city; to the east or north—potters, barbers and other craftsmen; to the north-west—fishermen; to the west—butchers; to the north—oilmen; to the south-east or north-west—architects; farther off—washermen; one *krośa* (2 miles) off from the east—sweepers (Chs. 9, 29).

In practice :

Plans differed in theory and in practice. But there is no doubt that industries and occupations tended to be segregated from one another partly under the same circumstances which lead to the localisation of modern industries. In the towns of the Madhyadeśa we come across the ivory-workers' street (*dantakāravīthiṃ* in Banaras, Jāt. I. 320 f ; II, 197), the lotus street (*uppalavīthiṃ* in Sāvatthi, II. 321), the washermen's street (rajakavīthiṃ, IV. 82), the street of the Vessas (vessānāṃ vīthiyā, VI. 485), the weavers' quarter (tantavitatṭhānaṃ, I. 356; pesakāravīthi, DhpA. I. 424) and a street in the caterers' quarters (odonikagharavīthiyaṃ, III. 49). As in the town people with the same industrial pursuit flocked

in a specified street or quarter, in the countryside, they congregated in the same village settlement and formed a more developed organisation. A carpenter's village with 500 or 1,000 families is often seen in the frontier of the state of Kāsi or in the outskirts of the city of Banaras (kāsiraṭṭhe...paccantagāme bahū vaḍḍhakī vasanti, I. 247; kulasahassanivāso mahāvaddhakigāmo, IV. 159; II. 18, 405; IV. 207). There was a weavers' village near Banaras under a headman (Dhammapāla's Com. on Therig, Pss. 157 ff) and a smith's village of 1,000 houses (sahassakuṭiko kammāragāmo, III. 281) is referred to. Brāhmaṇas formed similar villages for their scholastic and religious activities (VI. 514; Mn. I. 285, III. 290).[1] The craftsmen purveyed their goods to the people of neighbouring towns and villages or executed orders from them jointly or severally (Vr. XVII. 11).

The jeṭṭhaka :

After localisation the next factor was leadership. The localised industry, the *gāma* or the *seṇi* was frequently organised under a leader called *jeṭṭhaka*. We hear of *jeṭṭhakas* of carpenters, smiths, weavers, garland-makers (III. 405) as well as of other inferior crafts and of mariners, thieves, caravan-guards, etc. Fick surmises that his office was hereditary and honorary, based on skill rather than on age. He is prominent in royal court (III. 281, V. 282) and rich and of great substance (III. 281). He seems to have combined the functions of the village syndic and the president of the local guild.

Heredity of occupation :

The third factor was heredity of occupation. From the frequent use of the suffixes *kula* and *putta* after a craft name,

1 For villages of fishermen, hunters, thieves, *caṇḍālas*, *veṇas*, *naṭakāras*, etc., see *infra*, Bk. V. Ch. III, Bk. VI. Ch. III.

it would appear that a family stuck to the same craft the father handing down to his son his capital, credit and accumulated experience. Later, during the period of the later law-books (Manu, etc.), with the development of trade transactions "the significance and inner compactness deepened, and being similar to the castes on account of the traditional organisation and the hereditariness of membership, they gradually got....., as certain rules and customs with reference to marriage and interdining were developed, the appearance of real caste, till they finally became the modern trading classes."[1]

Ācariya and *antevāsi :*

But occupation was not always rigidly determined by heredity or caste. This is proved by the copious literary references particularly in the Pali canon to the master and the pupil, the *ācariya* and the *antevāsi* in an establishment where the latter undergoes a course of apprenticeship under the former in an art which he chooses to pursue in future. His role is not always that of a learner,—for sometimes he excels his master in skill (Jāt. V. 290 ff). It is very often that of an assistant or a servant akin to the worst conditions of wage labour.[2]

Terms of apprenticeship :

From Nārada's rule it seems that the period of apprenticeship was very similar to the condition of bondage. A youngman desirous of learning a trade was free to do so. He lived with a master, worked for him and was fed and taught by

1 Fick: Die Sociale Gliederung, p. 179.

2 In fact Nārada treats them in the same chapter along with hired servants and slaves.

him (also Vṛ. XVI. 6). Like a slave by his master he should be treated as a son.[1] He might not be made to do any other work than the one he was learning. The master might compel the apprentice's return if he ran away. In case the apprentice learns the craft more quickly than stipulated in the contract, the time left over shall be his master's and all the profit derived from the apprentice during that period shall accrue to his master (also Yāj. II. 187). It follows that he was bound down for a given length of time and that the advantage from his work was wholly his master's. If agreed upon in advance he might be rewarded with a fee on attaining proficiency, but he should continue to work for his master till the stated time was up (V. 16-21).

Guild laws, evolution :

The last and the strongest factor binding the constituents as a close homogeneous unit was the operation of the guild laws. The evolution of these laws may be traced back roughly to the first six centuries before the Christian era in the form of conventions taking shape. The tendency is indicated in two rules of Gautama. "Laws of districts, castes and families, when not opposed to sacred texts, are an authority"; and "ploughmen, merchants, herdsmen, money-lenders and artisans (are also authority) for their respective classes" (XI. 20 f ; Vāś. I. 17, XIX. 7). While Gautama is an advocate of local usage and law of caste, Manu reckons guild laws as on par with those of castes and localities. A king should settle the laws

1 *Cf.* Mv. I. 32. 1, where Buddha says that the *ācariya* ought to consider the *antevāsika* as a son, the *antevāsika* should consider the *ācariya* as a father. He exhorts the *bhikkhus* to live the first ten years in dependence on the *ācariya*. Of course the rule relates to education in sacred lore and not in a craft.

only after a careful examination of the laws of castes. districts, guilds, (śreṇī) and families (VIII. 41; Yāj. I. 360 f; Nārada, X. 2). Vṛhaspati goes farther to enjoin that the king must approve of whatever the guilds do to other people in accordance with their rules whether that is cruel or kind (XVII. 18).

Apportionment of shares and liabilities :

These rules were meant to regulate distribution of profits and liabilities, investments and dividends among the members. According to the Arthaśāstra, guilds of workmen (saṃghabhṛtaḥ) and those who carry on co-operative work (sambhūya samutthātāraḥ) shall divide their earnings (vetanaṃ) either equally or as agreed upon among themselves (III. 14). The rules of Nārada and Vṛhaspati on *sambhūya samutthānam* or joint transaction of business are more elaborate and relate to trade guilds as well as to craft guilds. The partners must share all legitimate expenses of business such as those incurred by (*a*) purchase and sale of merchandise, (*b*) provision for necessary travelling, (*c*) wages of labourers, (*d*) realisation of dues, (*e*) freight, (*f*) care of treasures (Nār. III. 4 and Vivādaratnākara's com.). The loss, expenses and profit of business are to be shared by each partner according to the share contributed by him to the joint stock. A partner is responsible for any loss due to his want of care or any action without the assent or against the instructions of his co-partners (Nār. III. 5 ; Vṛ. XIV. 9). On the other hand he is entitled to a special remuneration for special profit gained through his individual action (Nār. III. 6; Vṛ. XIV. 10). The master craftsman is entitled to a double share of the profits. So also the head of an engineering firm building a house or a temple or digging a tank (Vṛ XIV. 29).

Rules of contract :

The guilds took contract for work. The Arthaśāstra lays down its rules or terms between the transacting parties (III. 14). Rules of contract bear also on the internal affairs of a guild. Vṛhaspati says that a contract executed by one is binding on all (XIV. 5). The rule of the Arthaśāstra is that a healthy person who deserts his company (of contract artisans) after work has been begun shall be fined 15 *paṇas*, for none shall of his own accord leave his company. One found to have stealthily neglected his share of work shall be shown mercy for the first time and given proportional work anew with promise of proportional share in earnings. For neglecting again and going elsewhere he shall be thrown out of the company (pravāsanam).

Sanction :

For a glaring offence (mahāparādha) he shall be treated as condemned (duṣyavad-ācaret, III. 14). The Dharmaśāstras do not show the same leniency. According to Nārada and Vṛhaspati he who disobeys the laws or injures the joint stock is to be banished. A member who fails to implement an agreement entered into by his association is to be banished and his property confiscated. According to Yājñavalkya dishonesty is punished by expulsion from the guild and forfeiture of share in the profits. A disabled partner may, however, appoint a substitute to do his part of the work (II. 265).

Judicial authority :

The threat of expulsion for indiscipline and dishonesty was the sanction of the guild laws. Accordingly, the association had complete judicial authority over its members. Vṛhaspati says that the partners are to be judges and witnesses in deciding their own disputes (XIV. 6). These disputes

do not necessarily relate to affairs of business, they might he strictly personal. Later law books emphasise the jurisdiction of local popular courts like the *kula, śreṇī, gaṇa* and *pūga*—graded in ascending order of superiority (Nār. Intr. 7; Vṛ. I. 28-30 ; Yāj. II. 30). This juridical power is recognised in the Buddhist literature. A man may be tried by his guild (pūgamajjhagato, Mn. I. 286, III. 48). Its interference is invoked to settle differences between the members and their wives (Vin. IV. 226). In the Suttavibhanga it is forbidden to ordain the wife of a member unless his guild had sanctioned it. This rigid control over the affairs of a well-knit corporation was exercised by an executive body of two to five persons presumably with a presiding head which also supervised the affairs of smaller associations (Vṛ. XVII. 10).

Funds, earnings and expenditures :

The finances of the guild consisted of individual earnirgs and contributions, fines and confiscations on delinquent members, king's subsidy (Vṛ. XVII. 24) and profits from execution of orders (Yāj. II. 190). Good profits accrued from the investment of the deposits which the guilds received from the king and the public as banks.[1] They might in their turn earmark a part of their capital to be set aside as safe deposit. The Arthaśāstra prescribes on this point that those who can be expected to relieve misery, who can give instructions to artisans, who can be trusted with deposits, who can plan artistic work after their own design, and who can be relied upon by guilds of artisans may receive the deposits of guilds. The guilds shall receive their deposits back in time of distress.

1 For the banking activity of the *śreṇī* see *infra*, Bk. IV, Ch. II.

Arthyapratikārāḥ kāruśāsitāraḥ sannikṣeptāraḥ svacittakāravaḥ śreṇīpramāṇā nikṣepaṃ gṛhṇīyuḥ. Vipattau śreṇī nikṣepaṃ bhajet. IV. 1.

The incomes were distributed as (*a*) dividend among members, (*b*) charity, (*c*) fresh investment.

deyaṃ niḥsva-vṛddhāndha-strī-bāl'-ātura-rogiṣu
santānikādiṣu tathā eṣa dharmaḥ sanātanaḥ
tato labhyeta yatkiñcit sarveṣāmeva tatsamam
ṣāṇmāsikaṃ māsikaṃ vā vibhaktavyaṃ yathāṃśataḥ
Vṛ. XVII. 23 f.

The Smṛti rules find positive illustration from life. Four Banaras weavers plied their trade jointly and used to divide their earnings in five shares, keeping four for their own and disposing of the fifth for charity.

Bārāṇasiyam pesakārā ekato hutvā tena kammena laddhakaṃ pañca koṭṭhāse katvā cattaro koṭṭhāse paribhuñjimsu pañcamaṃ gahetvā ekato va dānaṃ dadiṃsu.
Jāt. IV. 475.

Benevolent public work and religious contribution received equal attention. Among the votive offerings at Sanchi one is attributed to the guild of ivory-carvers. A cave inscription in Junnar records the gift of a seven-celled cave and of a cistern by the *śreṇī* of corn-dealers.[1] A Gwalior Inscription (876 A.D.) records a temple-grant by a town where guilds of oil-millers (tailikaśreṇī) and of gardeners (mālikaśreṇī) levy a toll among themselves and assign it to the temple.[2]

Guild vis-a-vis state, guardianship :

The guilds while enjoying an autonomous life stood in close relation to the civil authority. The legal masters enjoin

1 Bühler and Burgess : *Arch. Sur. W. Ind.*, IV. 10.
2 E. I., 1. 20.

a paternal and fostering care to be extended to industrial combinations. Not only must the king respect the guild laws but must also see that members thereof followed their own laws (Yāj, I. 361; Viṣ. III. 2; Nār. X. 2). To enforce observance of these laws and compacts among members the king may resort to the penal sanctions of fine and banishment (Manu, VIII. 219-21; Viṣ. V. 168; Yāj. II. 192). In the case of a dispute between a guild and its head, the king shall arbitrate and he shall restrain when a whole guild boycotts a member from hatred (Vṛ. XVII. 19-20). He subsidises a guild when necessary. He has the prerogative of taxing it to his pleasure.

Disputes and arbitration :

The Jātakas offer several instances of guild-disputes (II. 12, 52; IV. 43; VI. 332). The source of these quarrels is nowhere disclosed. That there might be more than one guild of the same craft at one place, *e.g.*, the two weavers' guilds at Govardhana (Nasik Cave Ins.) may lead to a vague surmise. To remedy this state of affairs, a king is said to have inaugurated the office of the *bhaṇḍāgārika* who carried with it "the judgeship over all guilds" (sabbaseṇināṃ vicaraṇatthāya, IV. 43) and "whose function possibly referred to a supervision of the goods made or dealt with by a guild or guilds and not only to the king's exchequer."[1]

Other relations :

The king's rôle of guardianship is reflected in many other references. He collects all the guilds (sabbaseṇiyo) along with his subjects to demonstrate his almsgiving (Jāt. IV. 49). He assembles the four castes, the eighteen guilds (aṭṭhāraso

1 Mrs. Rhys Davids: Cambridge History of India, vol. I, p. 207.

seṇiyo) and his army for a procession to receive his son (VI, 22). Among ministers, officials and notables are the chiefs of the guilds (śreṇimukhyāḥ) who are ordained by Bharata to come out and greet Rāma on his return from exile (Rām, VI. 129. 4). The king was in intimate touch with the *jeṭṭhaka* and probably this was the agency through which he exercised his powers of oversight.

Guild militia, threat to civil power :

But the guild was not always the submissive ward. As a necessary corollary to its political power and autonomous life and from the need of defending its treasures occasionally the *śreṇī* may have formed a militia and possessed military power enough to be a perpetual worry to the king. Prince Duryodhana when defeated in the hands of the Gandharvas was ashamed of returning home and meeting his relatives, priests and heads of guilds (gaṇamukhyāḥ, Mbh, III. 248. 16). The Arthaśāstra is at its wit's end to keep the guilds under subjugation and to destroy them by sowing seeds of discord. In the Śāntiparva their power is reckoned as equal to that of the army; their heads must be 'talked over' by spies when the king would subdue another kingdom; they are 'supported by union' and the king is especially warned not to tax them too heavily lest they become disaffected, which is considered as a grave calamity (107. 10-32).

The organised crafts :

In the land where and in the time when the Jātaka stories took shape there were eighteen industries which were organised into guilds (aṭṭhāraso seṇiyo, I, 267, 314; III. 281; IV.411; VI.22). Four of these are repeatedly mentioned, *viz.*, carpenters (vaḍḍhaki), smiths (kammāra), leather-dressers (cammakāra) and painters (cittakāra) (VI. 427). Among craft guilds Vṛhas-

pati enumerates those of goldsmiths, silversmiths, workers in other base metals (kupya), carpenters, stone-dressers (saṃskartā) and leather-workers (XIV. 27). The Nasik Cave Inscriptions refer to the guilds of weavers, of potters (? kularika) of workers with water-pumps (odayantrika) and of oil-millers (tilapiṣaka) (12. v, 15. vii). A Mathura Brāhmī Inscription of Huviṣka's time records the existence of a *rāka* (?) guild and a guild of flour-markers (samitakara).[1] The Junnar Buddhist Cave Inscriptions similarly speak of one of bamboo-workers (vasakāra) another of braziers (kasakāra) and a third of corn-dealers (dhaṃñika).[2] The collective gift of the ivory-workers at Vedisā (Sanchi Ins. C. 189) probably indicates that these artisans formed a *śreṇī*. Later inscriptions and inscriptions from the south add copiously to the list.

Powers and functions :

The autonomy and entity of the guild was as much legal as real. Sometimes it displayed its distinguishing colours. In the preparations made by the royal family and citizens of Mathurā to witness the wrestling bout between Kṛṣṇa and Kaṃsa, pavilions were erected for different companies and corporations with flags representing the implements and emblems of the several crafts (svakarma-dravyayuktābhiḥ patākābhiḥ. Harivaṃsa, 86. 5). If the *nigama* of the coins of Taxila and of the Bhita seals refers to town corporations and not to industrial guilds, the Basarh seals of the time of the Gupta emperors show a great advancement in guild activity referring to and giving the names of bankers (śreṣṭhin), traders (sārthavāha) and merchants (kulika), their leaders

1 E. I., XXI. 10.

2 Bühler and Burgess : *Op. cit.*, IV. 10, 24, 27.

(prathama-kulika) and their activities. The civic affairs of the *nigama* were dominated by powerful trade and craft guilds.[1]

General traits, strength and weakness :

The guild served not only as a bank receiving deposits at interest but also as a trustee and executor of endowments. An endowment in a guild bank is reported to be permanent so long as the guild retains its unity even if it moves to a different place.[2] This shows its mobility and organisational perfection and the public confidence reposed in it. The 1,000 families of carpenters in a *gāma* who shifted wholesale overnight in boats and settled in an island in mid-sea is a typical illustration of this mobility (Jāt. IV. 159). Another example is a guild of skilled (prathitaśilpāḥ) silk-weavers who migrated from Lāṭa or southern Gujarat into the city of Dāsapura and constructed "a noble and unequalled temple of the bright-rayed sun." After this the members began pursuing different occupations, *e. g.*. music, story-telling (kathāvidaḥ), religious discourses (dharmaprasanga); some remained weavers, others changed into astrologers (jyotiṣa) or warriors (samarapragalbhāḥ) or recluse (vijita-viṣayasanga). Still the corporate organisation was intact and the temple which had fallen into disrepair was restored by the same guild after a period of thirty-six years from its construction.[3] The larger civic conscience and communal spirit thus stood against the disruptive tendencies of contradictory tastes and occupations. This also shows the extent of intellectual life and culture nursed in a mere craft guild and the amount of independent development and freedom of choice permitted within its scope. But this is not the *śreṇī* of the Jātakas and of the Smṛtis. We

1 See *supra*, p. 231.
2 Fleet: Gupta Inscriptions, No. 16.
3 *Ibid*, p. 86.

miss the team plying their shuttle together, the rules regulating collective contracts for a job, the allocation of shares and dues from a joint-stock. The institution imbibes cultural propensities and develops conflicting tastes in a growing urban atmosphere. It has lost its fundamental character of manual labour and the basic unity grown upon it. The earlier *śreṇī* was a corporation of artisans devoted to their vocation who could ill afford to pursue the so-called cultures and refinements as means of livelihood. The story of the Mandasor Inscription sets forth the first stage of disintegration of a well-knit craft guild with common vocational interests. The process is hidden under the plaster of a higher but loose synthesis maintained only by tradition and personal association.

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